ORDER NO. HAD8705122C1
A1

Service Manual

Cassette Deck

RS-363

Dolby NR-Equipped
Double Cassette Deck

DOLBY SYSTEM

Color

(K)...Black Type

Color	Area
(K)	[M].....U.S.A.

System
SC-3630

SPECIFICATIONS

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(DECK A) REC/PLAY	Hard Permaloy head
Erasing	Double-gap ferrite head
(DECK B) PLAY	Hard Permaloy head
Motors	
(DECK A) Capstan/reel table drive	2 speed electronically controlled DC motor
(DECK B) Capstan/reel table drive	2 speed electronically controlled DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)	
METAL	20 Hz~16 kHz 40 Hz~15 kHz (±3 dB)
CrO_2	20 Hz~15 kHz 40 Hz~14 kHz (±3 dB)
NORMAL	20 Hz~15 kHz 40 Hz~14 kHz (±3 dB)
S/N	(signal level = max recording level, CrO_2 type tape)
DOLBY NR on	66 dB
DOLBY NR off	56 dB
Wow and flutter	0.08% (WRMS)
Fast Forward and Rewind Time	Approx. 105 seconds with C-60 cassette tape
Input sensitivity and impedance	
LINE	60 mV/47 kΩ
Output voltage and impedance	
LINE	400 mV/3.2 kΩ
Power consumption	18W
Power supply	AC 120V, 60 Hz
Dimensions (W×H×D)	430 × 120 × 228 mm (16-15/16" × 4-23/32" × 8-31/32")
Weight	3.8 kg (8.4 lb.)

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

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■ CONTENTS

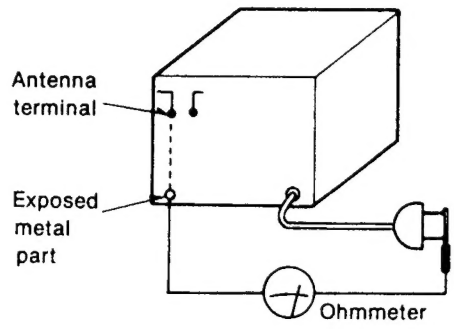
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

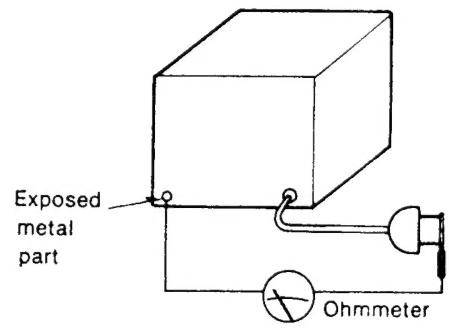
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



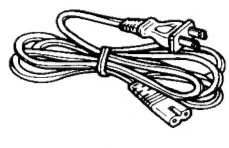
(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

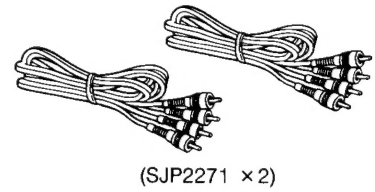
■ ACCESSORIES

•AC power supply cord 1



(SJA170T)

•Stereo connection cables (Short)... 2



(SJP2271 ×2)

D

■ LOCATION OF CONTROLS

Power switch (power)

"DECK A" counter/reset button (DECK A counter)
This indicates the amount of tape travel of "DECK A". When this button is pressed, the readout will be reset to "000".

Recording indicator (rec indicator)
This indicator illuminates during tape recording, and recording stand-by mode.

Tape indicator (Auto Tape Select)
When "DECK A" is used, the tape indicator illumination will correspond to the type of tape used in "DECK A".

Recording level control (rec level)
Used to adjust the input (recording) level.

Editing/auto space switch (editing/auto space)

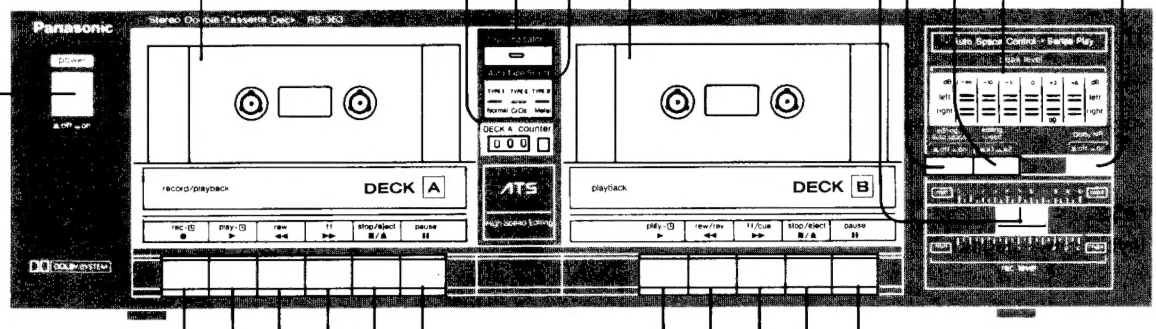
Editing tape-speed switch (editing speed)
Press to select the tape speed for edit-recording.

Level meters (peak level)
During recording, these meters indicate the recording level. The level is adjusted by using the recording level control. During playback, they indicate the level of the recorded sound.

Dolby noise-reduction switch (Dolby NR)

Cassette holder

Cassette holder



Pause button (pause/❚❚)

Stop/eject button (stop/eject/■/⏏)

Fast-forward button (ff/▶▶)
Press this button to advance the tape rapidly.

Rewind button (rew/◀◀)
Press this button to rewind the tape rapidly.

Playback button (play-⏲/▶)
Press this button to playback a tape.

Record button (rec-⏲/●)
Press this button to record.

When using "DECK A"

Pause button (pause/❚❚)
Press this button to temporarily stop tape movement during recording or playback.

Stop/eject button (stop/eject/■/⏏)
Press this button to stop the tape during recording or playback, and to open the cassette holder.

Fast-forward/cue button (ff/cue/▶▶)
When in the stop mode, press this button to advance the tape rapidly. When in the play mode, press this button to fast forward the tape while monitoring the sound.

Rewind/review button (rew/rev/◀◀)
When in the stop mode, press this button to rewind the tape rapidly. When in the play mode, press this button to rewind the tape while monitoring the sound.

Playback button (play-⏲/▶)
Press this button to playback a tape.

When using "DECK B"

D

■ OPERATION

Listening to Tapes

1 Power: "on" (▙→▂)

2 Press the tape monitor selector on the amplifier marked "tape 1" so that the indicator illuminates.

3 "off"(▂→▙): For playing back tapes which were not recorded through a Dolby noise reduction system.
"on"(▙→▂): For playing back tapes which were recorded through Dolby noise reduction system.

When using "DECK A"

4 Press, then insert the tape cassette.

5 Press.
(Playback will begin.)

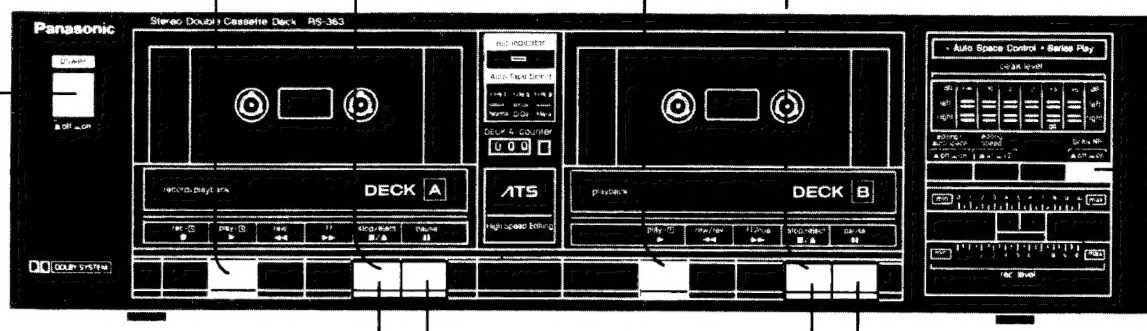
The side to be playback facing outward.

Part where tape is exposed facing downward.

When using "DECK B"

4 Press, then insert the tape cassette.

5 Press.
(Playback will begin.)



Tape deck

Press to stop the tape temporarily.

Press to stop the tape.

When using "DECK A"

Press to stop the tape temporarily.

Press to stop the tape.

When using "DECK B"

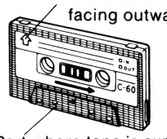
6 Adjust the volume level and the desired tone quality.

Recording

Note:
Only "DECK A" can be used for recording.
"DECK B" has no record capability.

1 Power: "on" (▮→ ▂)

2 Press, then insert a cassette tape.
The side to be recorded facing outward.



Part where tape is exposed facing downward.

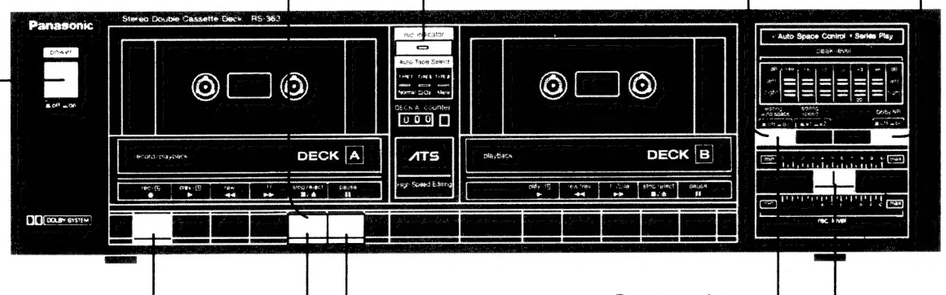
3 "off" (▂→ ▮)

4 "off" (▂→ ▮):
Tape recording without the Dolby noise reduction system.

"on" (▮→ ▂):
Tape recording with the Dolby noise reduction system.

Recording indicator

Tape deck



6 Press.
(Recording stand-by mode)
(The recording indicator will be illuminated.)

5 Press.

Press to make non-recorded spaces between tunes. (See below.)

8 Adjust the recording level.
(See below.)

7 Begin the program source to be recorded.

9 Press.
(Recording will begin.)

Press to stop the recording.

Press to stop the recording temporarily.

Adjustment of the recording level

The numbers which you should use as a guide for the adjustment of the tape level will differ depending upon the type of tape used.

Tape type	Normal (TYPE Ⅰ) CrO_2 (TYPE Ⅱ)	Metal (TYPE Ⅳ)
Level (Dolby NR off)	0 dB	+3 dB
Level (Dolby NR on)	+3 dB	+6 dB

To make non-recorded spaces between tunes

With this unit, by following the steps below, it is possible to make non-recorded spaces (four seconds long) between tunes.

- During recording, press the editing/auto space switch.
  (After about 4 seconds, the "DECK A" will automatically change to the recording stand-by mode.)
  To start the recording again, set this button to the "off" position.

To erase recorded sounds

1. Insert the recorded tape cassette into the cassette holder of "DECK A".
2. Set the recording level to the "0" (minimum) position, and Dolby NR switch to the "off" position.
3. Press the record button, and let the tape run.

Note that any sounds on the tape will be automatically erased if a new recording is made on that part of the tape.

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1 — How to remove the cabinet

Procedure 1
- Remove the 4 screws.

Ref. No. 2 — How to remove the main P.C.B.

Procedure 1 → 2
1. Remove the one screws (❶).
2. Open the side of back chassis, and then pull down it.
3. Remove the one screw (❷).
4. Remove the 4 tabs aside.

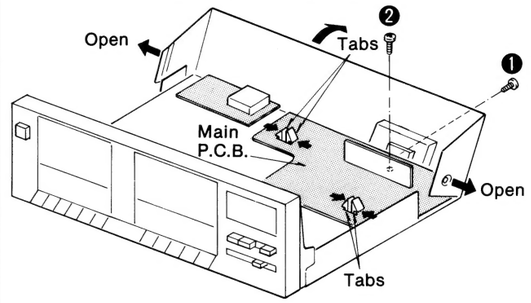


Fig. 1

Ref. No. 3 — How to remove the mechanism unit

Procedure 1 → 3
1. Remove the 6 screws (❶~❻).
2. Push the eject button.
3. Remove the counter belt (for mechanism unit of DECK [A]).

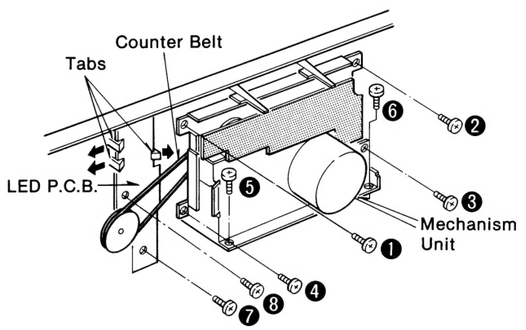


Fig. 2

Ref. No. 4 — How to remove the LED meter P.C.B. and VR/SW P.C.B.

Procedure 1 → 4
1. Remove the 2 screws (❶, ❷).
2. Push the one tab aside, and then remove the VR/SW P.C.B.
3. Remove the one screw (❸).
4. Push the 3 tabs aside, and then remove the LED meter P.C.B.

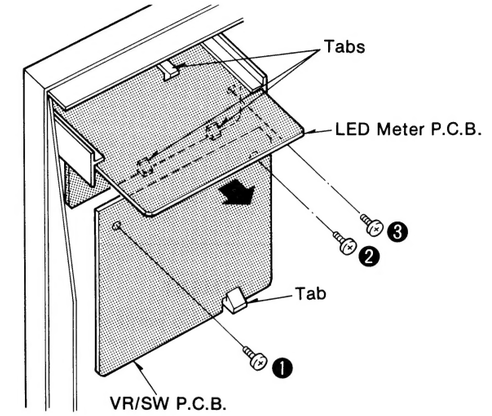


Fig. 3

Ref. No. 5 — How to remove the LED P.C.B.

Procedure 1 → 5
1. Remove the 2 screws (❼, ❽). (fig. 2)
2. Remove the 3 tabs aside. (fig. 2)

Ref. No. 6 — How to remove the front panel

Procedure 1 → 3 → 4 → 5 → 6
1. Remove the 5 screws (❶~❺).
2. Open the sides of front panel, and then pull it to yourself.

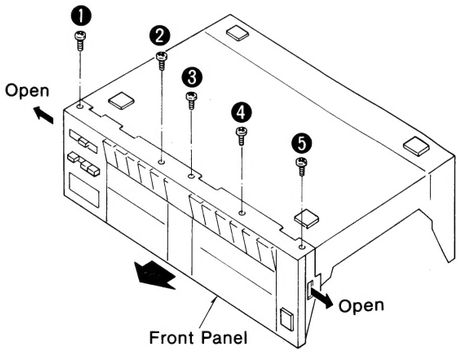


Fig. 4

"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

D

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Input level controls; Maximum
- Editing switch; Off
- NR switch; Off
- Editing tape speed switch; X1
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C(68±9°F)

Measuring instrument

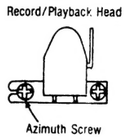
- EVM(Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT(Attenuator)
- DC voltmeter
- Resistor (600Ω)

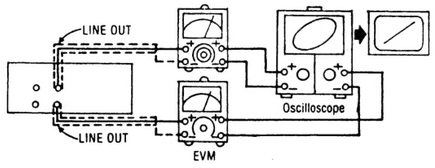
Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

HEAD AZIMUTH ADJUSTMENT

1.Playback the azimuth adjusted part(8kHz, -20dB) of the test tape(QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized.
(When the adjusting positions are different with L-CH and R-CH, find a position where the outputs of L-CH and R-CH are balanced, and then make the adjustment.)
2.At the same time, obtain a lissajous waveform and eliminate phase deflection.
3.After adjustment, lock the tape guide height and angle adjustment screws.





TAPE SPEED ADJUSTMENT

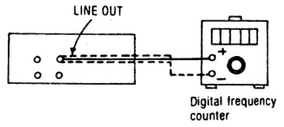
High speed

1.Set the editing tape speed switch to **"X2"** and connect the Deck A=TP1 and TPN1, Deck B=TP2 and TPN2.
2.Playback the middle part of the test tape (QZZCWAT).
3.Adjust Deck A=VR803 so that the output is within the standard.

Normal speed

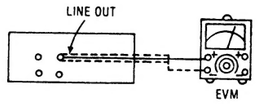
4.Set the editing tape speed switch to **"X1"** and open the Deck A=TP1 and TPN1, Deck B=TP2 and TPN2.
5.Playback the middle part of the test tape (QZZCWAT).
6.Adjust Deck A=VR801 and Deck B=VR802 so that the output is within the standard.

Standard value: 3000±15Hz(Normal), 6000±630Hz(High)



PLAYBACK FREQUENCY RESPONSE

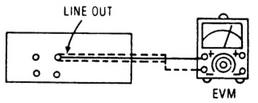
1.Playback the playback frequency response part (315Hz, 12.5kHz~ 63Hz, -20dB) of the test tape (QZZCFM).
2.Check that the frequency is within the range shown in Fig.1 for both L-CH and R-CH.
(See page 9.)



PLAYBACK GAIN ADJUSTMENT

1.Playback the playback gain adjusted part (315Hz, 0dB) of the test tape (QZZCFM).
2.Adjust Deck B=VR1(L-CH) ⟦VR2(R-CH)⟧ and Deck A=VR3(L-CH) ⟦VR4(R-CH)⟧ so that the output is within the standard.

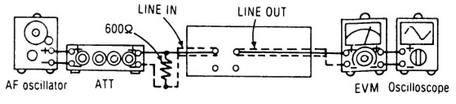
Standard value: 0.4±0.02V



OVERALL FREQUENCY RESPONSE

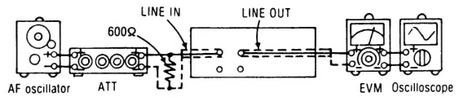
1.Set a normal blank tape (QZZCRA) and record by applying signal (50Hz ~ 12.5kHz), 20dB attenuated from the reference input level signal (1kHz, -24dB).
2.Playback the signal recorded in step 1, and check that the level of each output frequency is within the range shown in **Fig.2** in comparison with the reference frequency (1kHz).
3.If it is not within the standard range, adjust the bias current by Deck A= VR301(L-CH) ⟦Deck A=VR302(R-CH)⟧ so that the frequency level is within the standard.
- Level up in high frequency range.....Increase the bias current.
- Level down in high frequency range...Decrease the bias current.

4.After that, increase the signal recorded on CrO_2 blank tape(QZZCRX) and metal blank tape(QZZCRZ) up to 14kHz and adjust in the same way as mentioned above and check that the frequency level is within the range shown in **Fig.3**.



OVERALL GAIN ADJUSTMENT

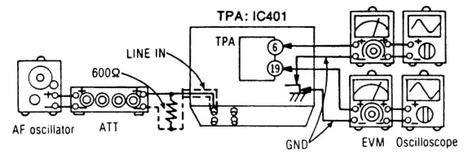
1.Set a normal blank tape (QZZCRA) and apply the reference input level signal (1kHz, -24dB) in record pause mode.
2.Adjust the output 0.4V by attenuator and then record.
3.Playback the signal recorded in step 2, and check that the output is within the standard.
4.If it is not within the standard, adjust Deck A= VR5(L-CH) ⟦Deck A= VR6(R-CH)⟧ and repeat the step (1), (2) and (3) until the output is within the standard.



Standard value: 0.4V ± 0.5dB(0.02V)

DOLBY NR CIRCUIT

1.Set a normal tape and apply 5kHz signal in record pause mode.
2.Adjust by attenuator so that the output between terminal 6(L-CH) ⟦terminal 19(R-CH)⟧ of IC401 and ground is 12.3mV.
3.Turn NR switch ON, and check that the level changes as specified from the level in NR out mode.



Standard value: 8 ± 1.5dB

Playback frequency response chart

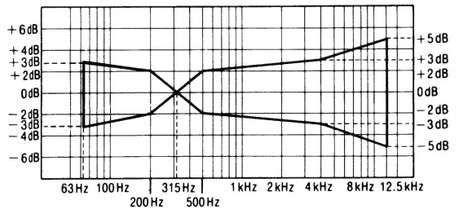


Fig. 1

Overall frequency response chart (Normal)

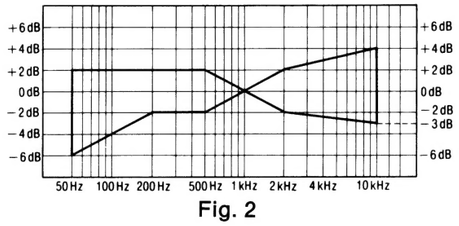


Fig. 2

Overall frequency response chart (CrO_2, Metal)

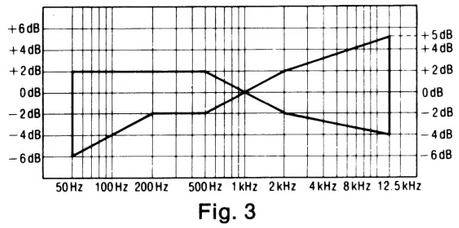
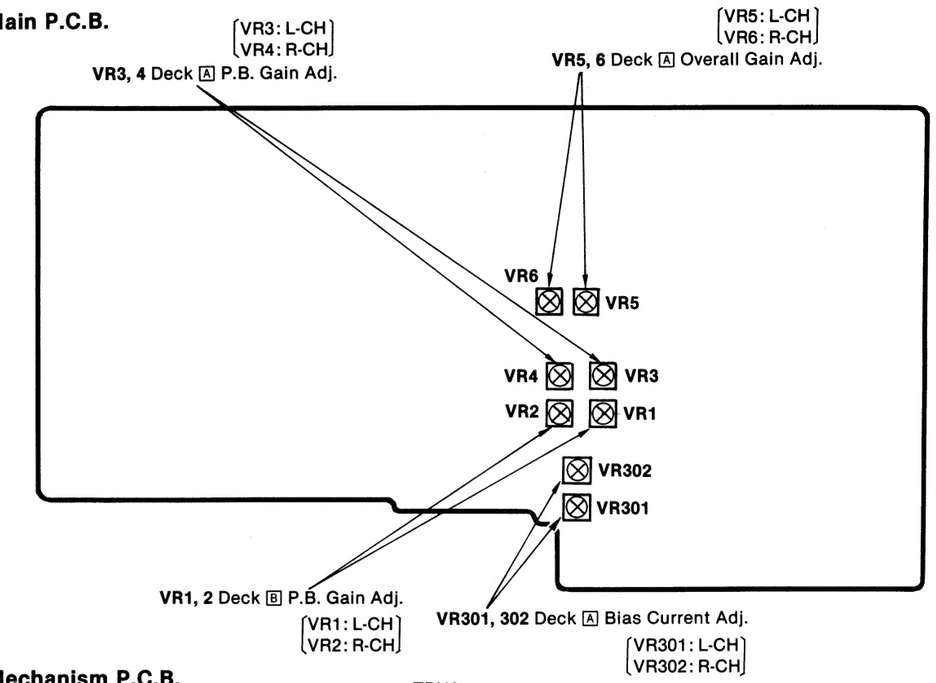


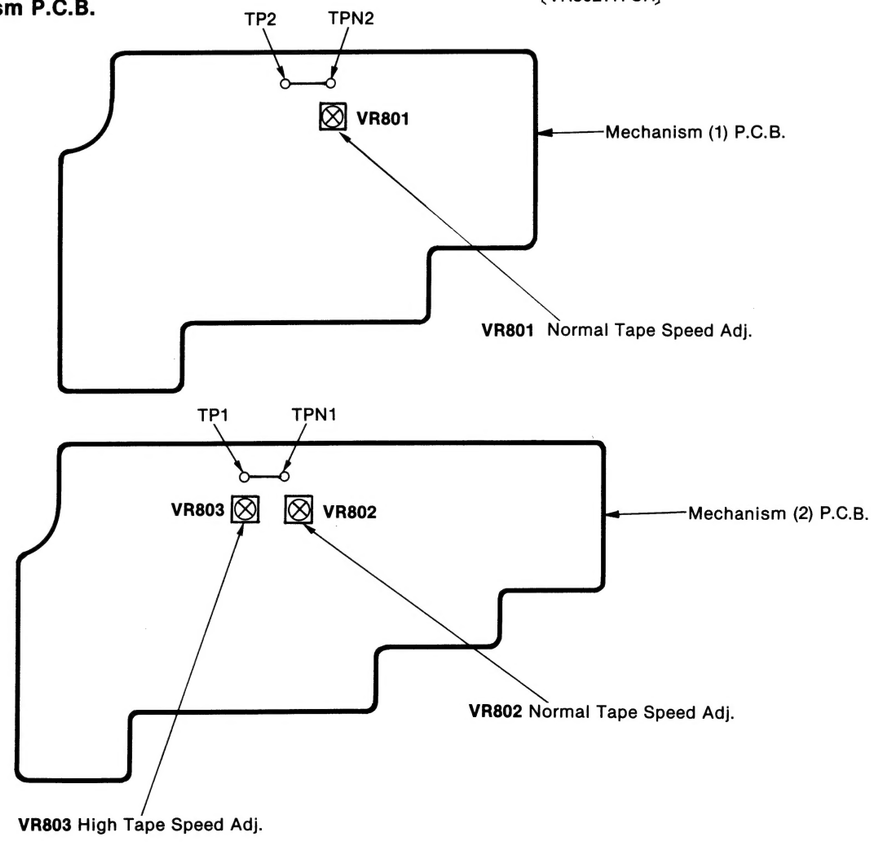
Fig. 3

• Adjustment Points

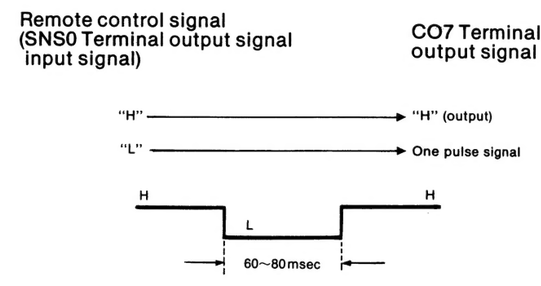
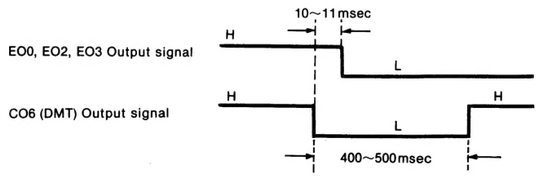
• Main P.C.B.



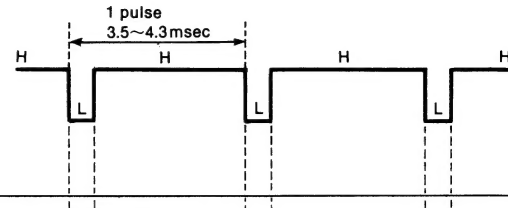
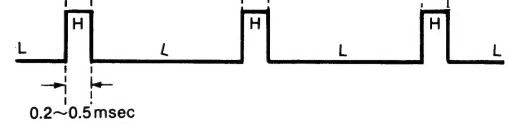
• Mechanism P.C.B.



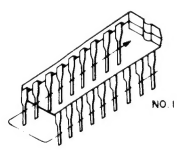
■ MICROCOMPUTER TERMINAL FUNCTION AND WAVEFORM (IC801: MN1402STO)

Terminal No.	Symbol	Name	Function/operation
1	Vss	——	• Connection to GND.
2	CO9	——	• Non connection.
3	CO8	——	• Non connection.
4	CO7	——	• Non connection. 
5	CO6	Direct muting (DMT) signal output	• "L" in mute on (STOP, FF/REW, CUE/REV and each selector), "H" in mute off (REC, PLAY). • DMT Output timing of each selector. 
6	CO5	Muting off signal output of playback AMP	• Deck [B] "L" in CUE/REV, "H" in other.
7	AI3	Reading of input switch state deck [B] auto tape selector (S904)	• "L" when auto tape selector is on mode. • "H" when auto tape selector is off mode.
8	AI2	Reading of input switch state deck [B] FF/REW (S902)	• "L" when FF/REW switch is on mode. • "H" when FF/REW switch is off mode.

Terminal No.	Symbol	Name	Function/operation
9	AI1	Reading of input switch state deck [A], deck [B] motors (S906, S903)	• DO0 output (Scan [A]) signal → "L" Deck [A]... "L" in motor switch on, "H" in motor switch off. • DO1 output (Scan [B]) signal → "L" Deck [B]... "L" in motor switch on, "H" in motor switch off.
10	AI0	Reading of input switch state deck [A], deck [B] PLAY (S905, S901)	• DO0 output (Scan [A]) signal → "L" Deck [A]... "L" in PLAY switch on, "H" in PLAY switch off. • DO1 output (Scan [B]) signal → "L" Deck [B]... "L" in PLAY switch on, "H" in PLAY switch off.
11	BI3	Reading of input switch state editing (S1)	• "L" when editing switch is on mode. • "H" when editing switch is off mode.
12	BI2	Reading of input switch state Tape speed selector (S2)	• "L" when tape speed selector is on mode. • "H" when tape speed selector is off mode.
13	BI1	Reading of input switch state deck [A] auto tape selector (S908)	• "L" when auto tape selector is on mode. • "H" when auto tape selector is off mode.
14	BI0	Reading of input switch state deck [A] REC (S907)	• "H" when REC switch is on mode. • "L" when REC switch is off mode.
15	EO0	Mode selector deck [A]	• "L" in PLAY mode, "H" in other mode.
16	EO1	Playback equalizer (120μs/70μs) selector	• "L" in 120μs mode, "H" in 70μs mode.
17	EO2	Tapespeed (X1/X2) selector	• "L" in normal speed (X1), "H" in high speed (X2).
18	EO3	Dolby IC mode selector (REC/PLAY)	• "L" in REC mode, "H" in PLAY mode.
19	$\overline{RST}$	Reset terminal	• Used to reset the microcomputer when power is thrown in. • Reset at "L".
20	TST	——	• Connection to GND.
21	DO3	Motor selector deck [B]	• "H" in motor deck [B] off, "L" in motor deck [B] on.
22	DO2	Motor selector deck [A]	• "H" in motor deck [A] off, "L" in motor deck [A] on.

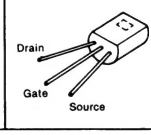
Terminal No.	Symbol	Name	Function/operation
23	DO1	Scan [B]	• Scan signal for reading of PLAY switch input. 
24	DO0	Scan [A]	 • Scan signal for reading of REC switch input.
25	SNS0	——	• Non connection.
26	SNS1	——	• Non connection.
27	V_{DD}	Power supply terminal	• Operative on 5±0.5 volts.
28	OSC	Clock Oscillation	• Clock oscillation of about 300kHz.

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

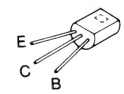


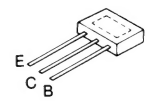
N6634	14 Pin
AN6888	18 Pin
NE657N	24 Pin
MN1402STO	28 Pin
AN7016K	30 Pin

2SJ40CD
2SK381



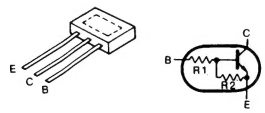
2SB621A-R
2SD592ANCQ



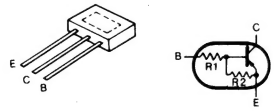


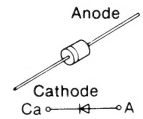
2SA1309AQS
2SC3311-Q
2SD1330R

UN4211

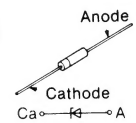


UN4113, UN4114

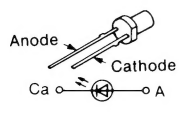




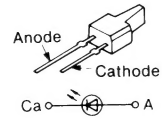
MA165
SVD1SR35200



MA4082M
MA4062-M
MA4075M



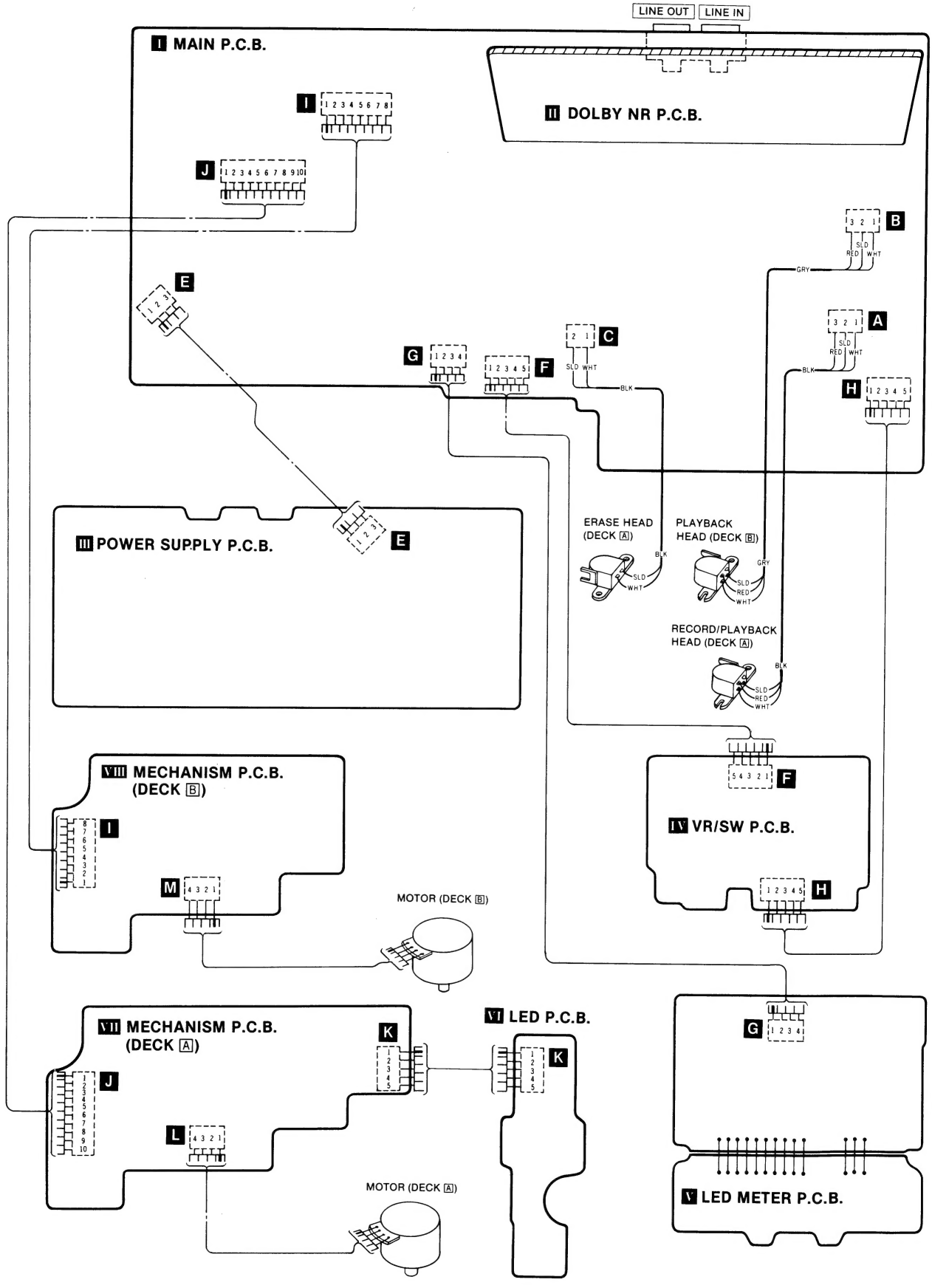
LN463YCPPU (YEL)
LN863RCPP (RED)



LN846RP (RED)
LN346GP (GRN)
LN446YP (YEL)

D

■ WIRING CONNECTION DIAGRAM



■ RESISTORS & CAPACITORS

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value

ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value 47x10¹ (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	330
Type	Voltage	Peculiarity	Value (33x10° microfarad)

Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide ERX : Metal Film ERQ : Fuse Type Metal ERD□ L : Carbon (chip) ERO□ K : Metal Film (chip) ERC : Solid	10 : 1/8W 12 : 1/2W 25 : 1/4W 1A : 1W 18 : 1/8W S2 : 1/4W S1 : 1/2W 2F : 1/4W 50 : 1/2W 2A : 2W	J : ±5% F : ±1% G : ±2% K : ±10%

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECQP : Polyproylene ECG : Ceramic ECEA□□□N: Non Polar Electrolytic QCU□ : Ceramic (Chip Type) ECUX : Ceramic (Chip Type) ECF : Semiconductor EECW : Liquid electrolyte double layer capcitor	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1H : 50V 1V : 35V 50 : 50V 05 : 50V 2H : 500V 2A : 100V 1 : 100V KC: 400V AC KC: 125VAC (UL) 1J : 63V	C : ±0.25pF J : ±5% K : ±10% Z : +80% –20% P : +100% –0% M : ±20% D : ±0.5pF G : ±2%

Ref. No.	Part No.	Part Code
RESISTORS		
R1, R2	ERDS2TJ101	001 152 2421 0
R3, R4	ERDS2TJ101	001 152 2421 0
R5, R6	ERDS2TJ101	001 152 2421 0
R7, R8	ERDS2TJ225	001 152 3149 3
R9, R10	ERDS2TJ820	001 152 2453 2
R11, R12	ERDS2TJ392	001 152 2439 0
R13, R14	ERDS2TJ272	001 152 2354 4
R15, R16	ERDS2TJ122	001 152 2423 8
R17, R18	ERDS2TJ332	001 152 2357 1
R19, R20	ERDS2TJ154	001 152 2427 4
R21, R22	ERDS2TJ273	001 152 2436 3
R23, R24	ERDS2TJ472	001 152 2362 4
R25, R26	ERDS2TJ102	001 152 2346 4
R27, R28	ERDS2TJ330	001 152 2355 3
R29, R30	ERDS2TJ472	001 152 2362 4
R31, R32	ERDS2TJ182	001 152 2352 6
R33, R34	ERDS2TJ182	001 152 2352 6
R37, R38	ERDS2TJ272	001 152 2354 4
R39, R40	ERDS2TJ183	001 152 2429 2
R41, R42	ERDS2TJ152	001 152 2350 8
R43, R44	ERDS2TJ182	001 152 2352 6
R47, R48	ERDS2TJ274	001 152 2437 2
R49, R50	ERDS2TJ154	001 152 2427 4
R51, R52	ERDS2TJ363	001 152 2594 0
R53, R54	ERDS2TJ103	001 152 2347 3
R301	ERDS2TJ1R0	001 152 2419 4
R302, R303	ERDS2TJ563	001 152 2446 1
R304, R305	ERDS2TJ100	001 152 2420 1
R308	ERDS2TJ561	001 152 2364 2
R309	ERDS2TJ220	001 152 2430 9
R310	ERDS2TJ331	001 152 2356 2
R401, R402	ERDS2TJ242	001 152 3150 0
R403, R404	ERDS2TJ471	001 152 2361 5
R405, R406	ERDS2TJ473	001 152 2363 3
R407, R408	ERDS2TJ432	001 152 2827 2
R409, R410	ERDS2TJ332	001 152 2357 1
R411, R412	ERDS2TJ102	001 152 2346 4
R413, R414	ERDS2TJ274	001 152 2437 2
R415, R416	ERDS2TJ184	001 152 2588 8
R417, R418	ERDS2TJ470	001 152 2442 5
R419	ERDS2TJ222	001 152 2353 5
R420	ERDS2TJ103	001 152 2347 3
R423	ERDS2TJ102	001 152 2346 4
R424	ERDS2TJ473	001 152 2363 3
R601, R602	ERDS2TJ470	001 152 2442 5
R603	ERDS2TJ101	001 152 2421 0
R604	ERDS2TJ102	001 152 2346 4
R605	ERDS1FJ100	001 152 2612 5
R606	ERDS1FJ220	001 152 2622 3
R607, R608	ERDS2TJ102	001 152 2346 4
R613	ERDS2TJ563	001 152 2446 1
R701, R702	ERDS2TJ363	001 152 2594 0
R703, R704	ERDS2TJ472	001 152 2362 4
R705, R706	ERDS2TJ154	001 152 2427 4
R707	ERDS2TJ562	001 152 2445 2
R708, R709	ERDS2TJ221	001 152 2431 8
R710, R711	ERDS2TJ330	001 152 2355 3
R801	ERDS2TJ103	001 152 2347 3
R802	ERDS2TJ102	001 152 2346 4
R803	ERDS2TJ103	001 152 2347 3
R805	ERDS2TJ272	001 152 2354 4
R806	ERDS2TJ332	001 152 2357 1
R807, R808	ERDS2TJ103	001 152 2347 3
R809	ERDS2TJ103	001 152 2347 3
R810	ERDS2TJ563	001 152 2446 1
R811	ERDS2TJ332	001 152 2357 1
R812	ERDS2TJ392	001 152 2439 0
R813	ERDS2TJ272	001 152 2354 4
R814	ERDS2TJ103	001 152 2347 3
R815	ERDS2TJ563	001 152 2446 1
R817	ERDS2TJ271	001 152 2435 4
R818, R819	ERDS2TJ391	001 152 2360 6
R820	ERDS2TJ103	001 152 2347 3
R821, R822	ERDS2TJ273	001 152 2436 3
R823	ERDS2TJ152	001 152 2350 8
R824	ERDS2TJ273	001 152 2436 3
R825, R826	ERDS2TJ152	001 152 2350 8
R828, R829	ERDS2TJ103	001 152 2347 3
R830	ERDS2TJ123	001 152 2424 7
R831	ERDS2TJ682	001 152 2365 1
R834	ERDS2TJ103	001 152 2347 3
R835	ERDS2TJ123	001 152 2424 7
R836	ERDS2TJ154	001 152 2427 4
R837	ERDS2TJ563	001 152 2446 1
R838	ERDS2TJ154	001 152 2427 4
CAPACITORS		
C1, C2	RCBS1H391KBY	001 103 8540 5
C3, C4	RCBS1H271KBY	001 103 5611 9
C5, C6	ECQB1H123JZ	001 106 3239 2
C7, C8	ECEA0JU101	001 120 2829 8
C9, C10	ECEA1EK4R7	001 120 0294 5
C11, C12	ECBT1H681KB5	001 103 9167 2
C15, C16	ECKD1H122KB	001 103 1459 5
C17, C18	ECCD1H181K	001 103 0466 0
C19, C20	ECEA1HKR33	001 120 0337 1
C21, C22	ECEA1HK010	001 120 0341 5
C23, C24	ECKD2H101KB	001 103 1610 6
C25, C26	ECKD1H561KB	001 103 1576 1
C27, C28	ECQB1H332JZ	001 106 3316 6
C29, C30	ECQB1H223JZ	
C31, C32	ECQB1H123JZ	001 106 3239 2
C33, C34	ECQB1H123JZ	001 106 3239 2
C35, C36	ECFR1E153KAY	001 108 1055 6
C37, C38 ⚠	ECKD1H223PF	001 103 1510 9
C39, C40	ECEA1HK010	001 120 0341 5
C41, C42	ECEA1HK2R2B	001 120 0346 0
C43, C44	ECEA1EK4R7	001 120 0294 5
C45, C46	ECEA1EK4R7	001 120 0294 5
C47 ⚠	ECKD1H223PF	001 103 1510 9
C301	ECKD1H392KB	001 103 1547 6
C302	ECFR1E682KAY	
C303, C304	ECFR1E222KAY	001 108 0942 8
C305 ⚠	ECKD1H223PF	001 103 1510 9
C306	ECFD1V473KD	001 108 0256 3
C307	ECQP1183JZ	001 106 1083 2
C308	ECEA1CKS100	001 120 2600 7
C309, C310	RCBS1H271KBY	001 103 5611 9
C311	ECEA1CKS100	001 120 2600 7
C403, C404	ECQB1H472JZ	001 106 3380 8
C405, C406	ECQM1H333JZ	001 106 0779 1
C407, C408	ECQM1H473JZ	001 106 0810 9
C409, C410	ECQM1H334JZ	001 106 0786 2
C411, C412	ECQV1H104JZ	001 106 2571 7
C413, C414	ECKD1H122KB	001 103 1459 5
C415, C416	ECKD1H152KB	001 103 1467 5
C601, C602	ECEA0JS102	001 120 0152 8

Ref. No.	Part No.	Part Code
C603	ECEA0JU222	001 120 3161 5
C604, C605 ⚠	ECKD1H223PF	001 103 1510 9
C606 ⚠	ECKD1H223PF	001 103 1510 9
C607, C608	ECEA1AU221	001 120 3131 1
C609, C610	ECEA1CU471	001 120 3202 3
C611	ECEA16V1000	001 120 2545 7
C701, C702	ECEA1HK2R2B	001 120 0346 0
C703 ⚠	ECKD1H223PF	001 103 1510 9
C802	ECEA1HKR47	001 120 0338 0
C803	ECCD1H101K	001 103 0341 2
C804 ⚠	ECKD1H223PF	001 103 1510 9
C806	ECEA1EK4R7	001 120 0294 5
C807	ECEA1AU221	001 120 3131 1
C808, C809	ECFR1E682KAY	
C810	ECQM1H224JZ	001 106 0746 0

■ REPLACEMENT PARTS LIST

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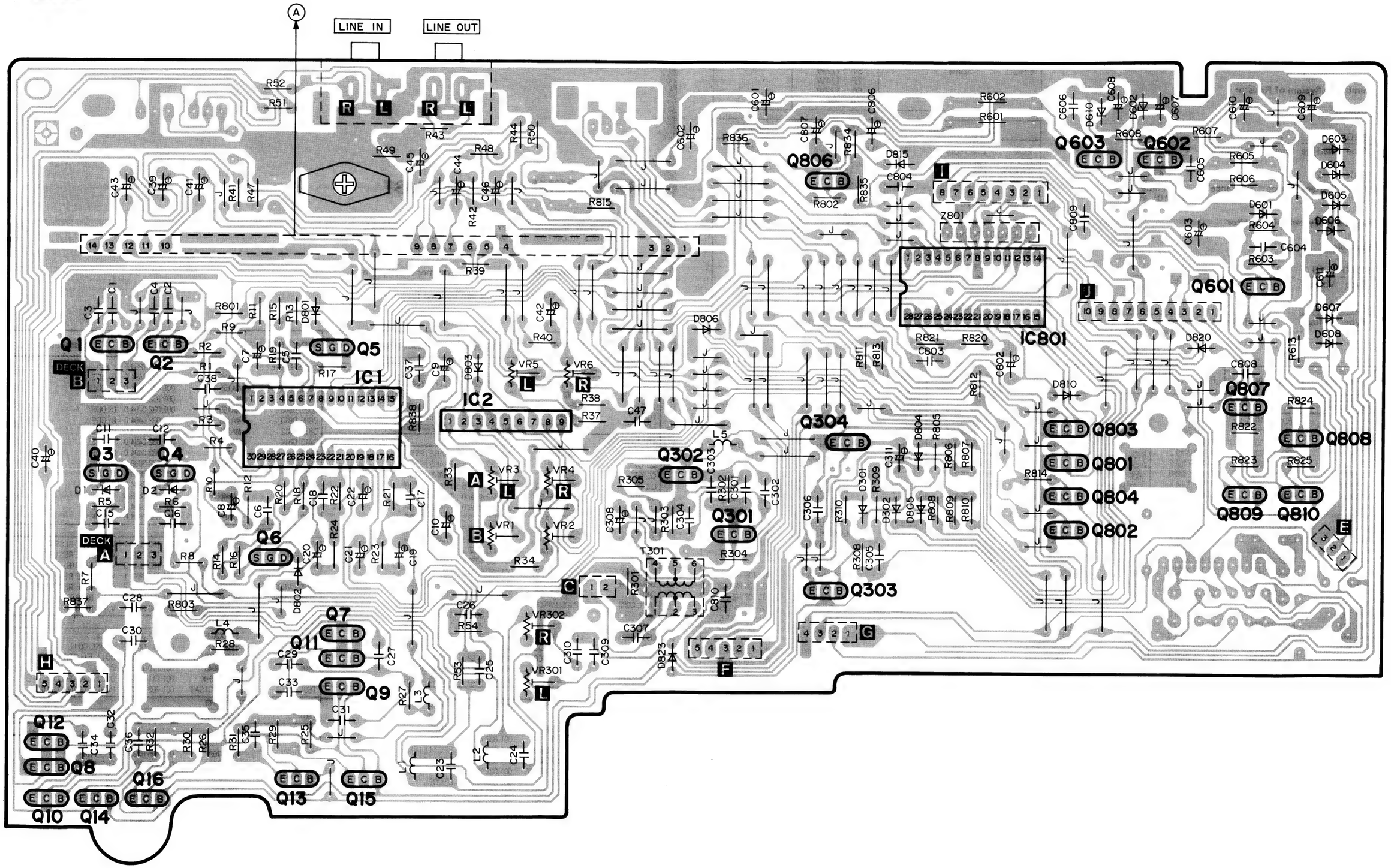
Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS			
IC1	AN7016K	001 061 4629 4	I.C. PLAYBACK/REC. AMP
IC2	MN6634	001 061 0884 7	I.C. DECK A/B SELECTOR
IC401	NE657N	001 060 7796 3	I.C. DOLBY/NR
IC701	AN6888	001 060 7693 9	I.C. LED METER DRIVE
IC801	MN1402ST0	001 061 4933 9	I.C. MICRO COMPUTER
TRANSISTORS			
Q1, Q2	2SD1450R	001 030 4366 1	TRANSISTOR
Q3, Q4	2SJ40CD	001 030 2807 5	TRANSISTOR
Q5, Q6	2SJ40CD	001 030 2807 5	TRANSISTOR
Q7, Q8	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q9, Q10	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q11, Q12	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q13, Q14	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q15, Q16	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q301, Q302	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q303	2SD592ANCQ	001 030 1752 7	TRANSISTOR
Q304	UN4211	001 030 4033 9	TRANSISTOR
Q401, Q402	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q403, Q404	2SC3311A-Q	001 030 5279 5	TRANSISTOR
Q405	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q601, Q602	2SD592ANCQ	001 030 1752 7	TRANSISTOR
Q603	2SB621A-R	001 030 0668 6	TRANSISTOR
Q801, Q802	UN4113	001 030 2900 9	TRANSISTOR
Q803, Q804	UN4113	001 030 2900 9	TRANSISTOR
Q806	2SA1309AQS	001 030 4846 0	TRANSISTOR
Q807, Q808	2SD592ANCQ	001 030 1752 7	TRANSISTOR
Q809, Q810	UN4114	001 030 4832 6	TRANSISTOR
Q811, Q812	2SK381	001 030 4439 1	TRANSISTOR
DIODES			
D1, D2	MA165	001 032 0494 0	DIODE
D301, D302	MA165	001 032 0494 0	DIODE
D601	MA4062-M	001 032 7211 7	DIODE
D602	MA4082M	001 032 4955 6	DIODE
D603, D604 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D605, D606 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D607, D608 ⚠	SVD1SR35200A	001 032 3951 4	RECTIFIER
D610	MA4075M	001 032 7212 6	DIODE
D704A, D704B	LN463YCPPU	001 032 7887 9	L.E.D
D704C, D704D	LN463YCPPU	001 032 7887 9	L.E.D
D704E, D704F	LN463YCPPU	001 032 7887 9	L.E.D
D704G, D704H	LN863RCPP	001 032 7263 5	L.E.D
D704I, D704J	LN863RCPP	001 032 7263 5	L.E.D
D704K, D704L	LN863RCPP	001 032 7263 5	L.E.D
D801, D802	MA165	001 032 0494 0	DIODE
D803, D804	MA165	001 032 0494 0	DIODE
D805, D806	MA165	001 032 0494 0	DIODE
D807, D808	MA165	001 032 0494 0	DIODE
D809, D810	MA165	001 032 0494 0	DIODE
D811, D812	MA165	001 032 0494 0	DIODE
D813, D814	MA165	001 032 0494 0	DIODE
D815	MA165	001 032 0494 0	DIODE
D816	LN846RP	001 032 3839 3	L.E.D
D817	LN346GP	001 032 3829 5	L.E.D
D818	LN446YP	001 032 3834 8	L.E.D
D819	LN846RP	001 032 3839 3	L.E.D
D820, D821	MA165	001 032 0494 0	DIODE
D822, D823	MA165	001 032 0494 0	DIODE
VARIABLE RESISTORS			
VR1, VR2	EVND4AA00B24	001 180 2244 1	VARIABLE RESISTOR
VR3, VR4	EVND4AA00B24	001 180 2244 1	VARIABLE RESISTOR
VR5, VR6	EVND4AA00B14	001 180 2242 3	V.R., 10KΩ(B)
VR7, VR8	EWABP1X05A54	001 174 6870 1	VARIABLE RESISTOR
VR301, VR302	EVND4AA00B15	001 180 2243 2	VARIABLE RESISTOR
VR801, VR802	EVN49C00YB14	001 180 3171 7	V.R., 10KΩ(B)
VR803	EVN49C00YB14	001 180 3171 7	V.R., 10KΩ(B)
COILS AND TRANSFORMERS			
L1, L2	SLQX303-1KT	001 211 3955 3	COIL
L3, L4	SLQX272-1YT	001 211 0649 2	CHOKE COIL
L5	ELEPK271KA	001 211 0622 3	COIL FILTER
L401, L402	QLB40048	001 210 7275 9	COIL
T301	SL09C19-K	001 211 2472 1	OSCILLATOR COIL
T601 ⚠	SLT5K231SAT	001 202 8873 5	POWER TRANSFORMER
COMPONENT COMBINATIONS			
Z801	EXBF7E562J	001 230 1578 9	COMPONENT COMBINATION
SWITCHES			
S1, S3	SSH3709	003 435 6325 3	PUSH SWITCH
S4	SSH3709	003 435 6325 3	PUSH SWITCH
S601 ⚠	SSH1226	003 435 6277 4	PUSH SWITCH
S901, S902	SSP83	003 434 0996 9	SW
S903	SSP83	003 434 0996 9	SW
S904	LSA-1150AU	003 434 0994 1	SWITCH
S905, S906	SSP83	003 434 0996 9	SW
S907	SSP83	003 434 0996 9	SW
S908, S909	LSA-1150AU	003 434 0994 1	SWITCH

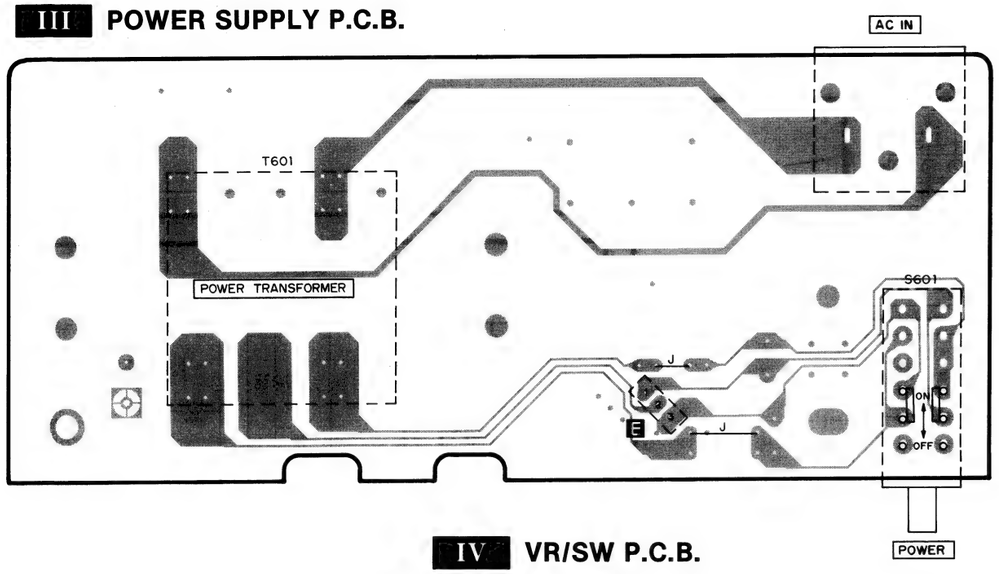
D

■ PRINTED CIRCUIT BOARDS

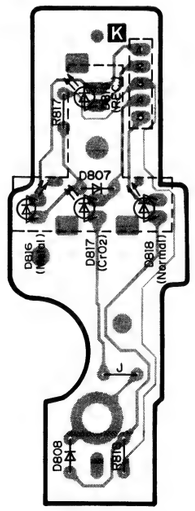
I MAIN P.C.B.



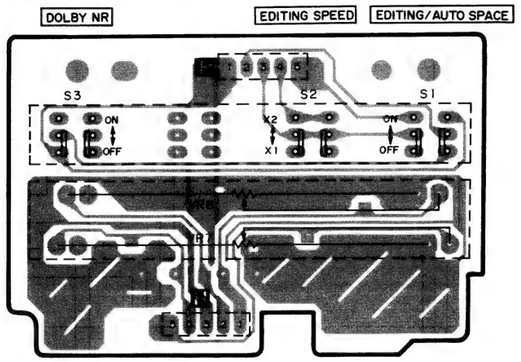
III POWER SUPPLY P.C.B.



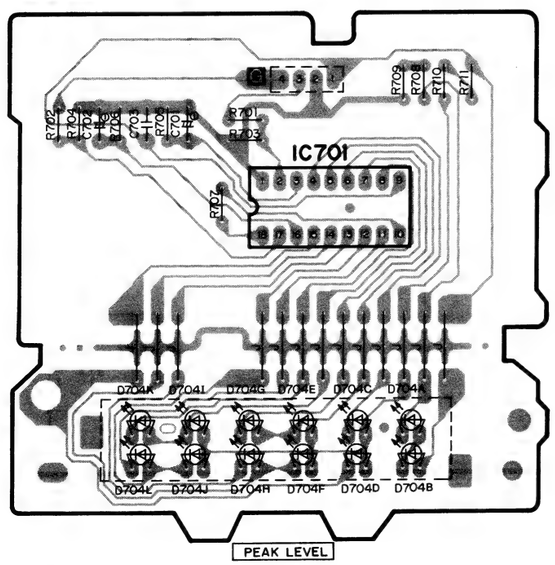
VI LED P.C.B.



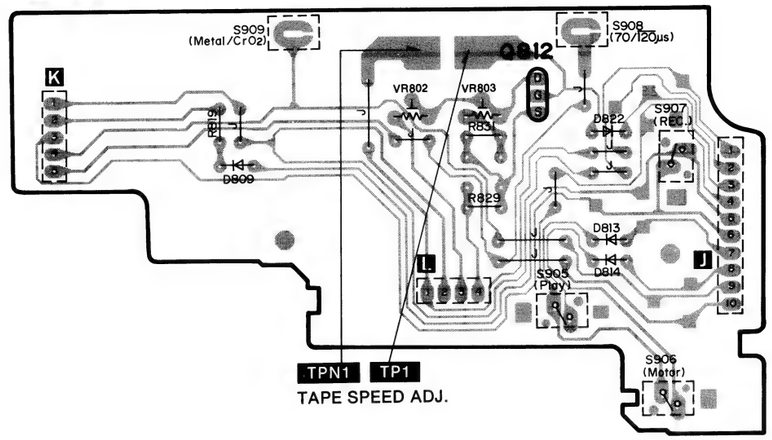
IV VR/SW P.C.B.



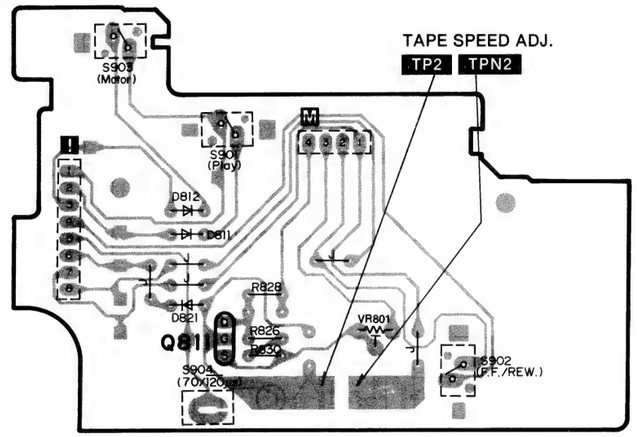
V LED METER P.C.B.



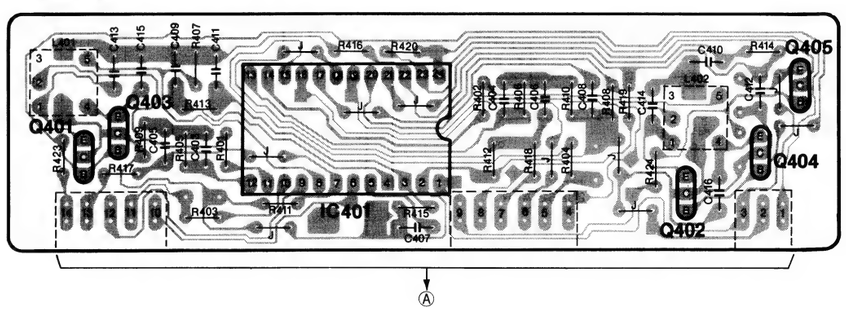
VII MECHANISM P.C.B. (DECK A)

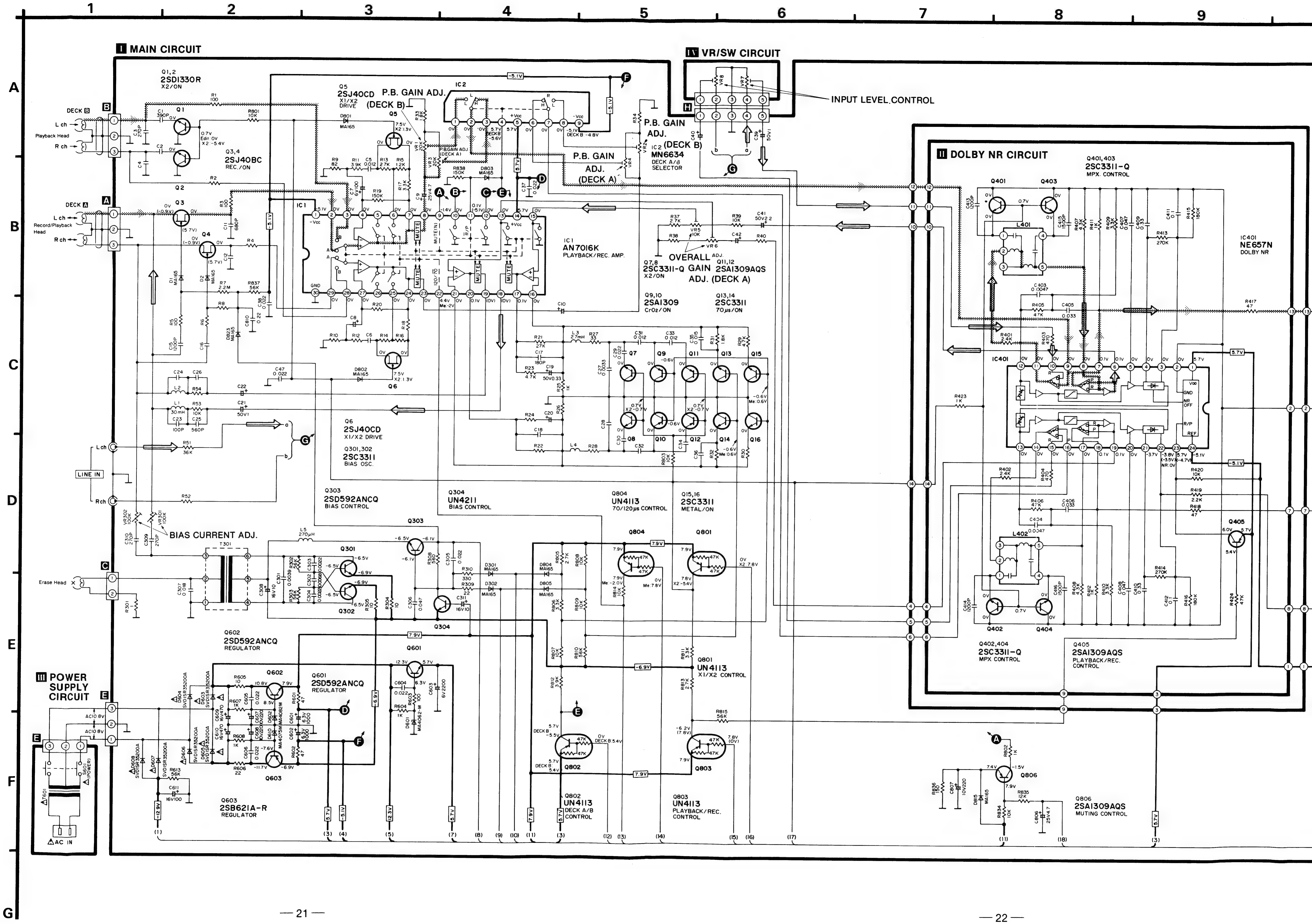


VIII MECHANISM P.C.B. (DECK B)

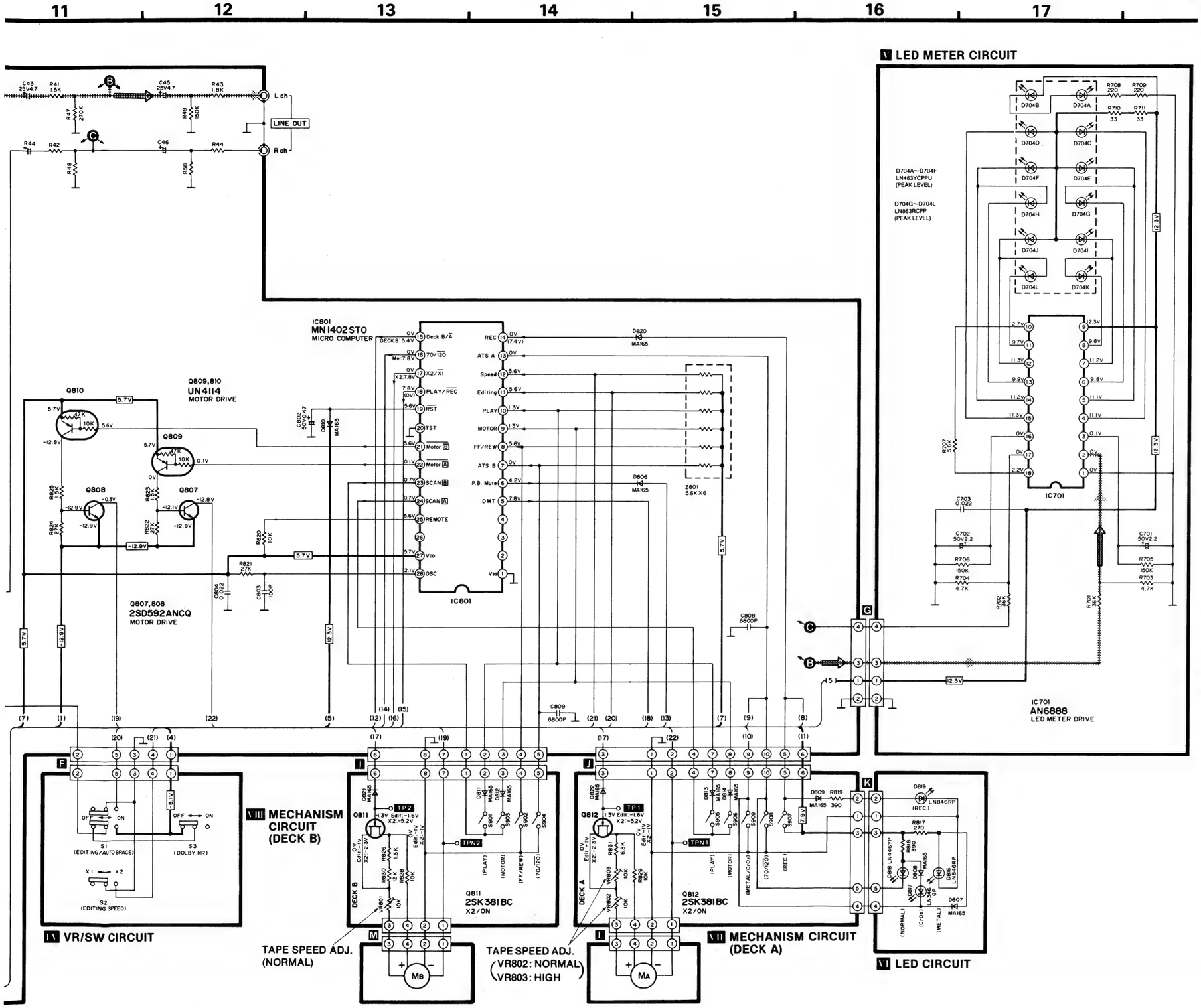


II DOLBY NR P.C.B. To Main P.C.B.





I MAIN CIRCUIT
IV VR/SW CIRCUIT
INPUT LEVEL CONTROL
II DOLBY NR CIRCUIT
III POWER SUPPLY CIRCUIT
Q1,2 2SD1330R X2/ON
Q3,4 2SJ40BC REC./ON
Q5 2SJ40CD X1/X2 DRIVE
P.B. GAIN ADJ. (DECK B)
P.B. GAIN ADJ. (DECK A)
IC1 AN7016K PLAYBACK/REC. AMP.
IC2 MN6634 DECK A/B SELECTOR
OVERALL GAIN ADJ. (DECK A)
Q7,8 2SC3311-Q X2/ON
Q11,12 2SA1309AQS
Q9,10 2SA1309 CrO2/ON
Q13,14 2SC3311 70μs/ON
Q401,403 2SC3311-Q MPX. CONTROL
IC401 NE657N DOLBY NR
Q6 2SJ40CD X1/X2 DRIVE
Q301,302 2SC3311 BIAS OSC.
Q303 2SD592ANCQ BIAS CONTROL
Q304 UN4211 BIAS CONTROL
Q804 UN4113 70/120μs CONTROL
Q15,16 2SC3311 METAL/ON
BIAS CURRENT ADJ.
LINE IN
Erase Head
Playback Head
Record/Playback Head
DECK B
DECK A
Q402,404 2SC3311-Q MPX. CONTROL
Q405 2SA1309AQS PLAYBACK/REC. CONTROL
Q602 2SD592ANCQ REGULATOR
Q601 2SD592ANCQ REGULATOR
Q801 UN4113 X1/X2 CONTROL
Q603 2SB621A-R REGULATOR
Q802 UN4113 DECK A/B CONTROL
Q803 UN4113 PLAYBACK/REC. CONTROL
Q806 2SA1309AQS MUTING CONTROL
AC IN



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **S1** : Editing switch in "**off**" position.
- **S2** : Editing speed select switch in "**X1**" position.
- **S3** : Dolby NR switch in "**off**" position.
- **S601** : Power switch in "**off**" position.
- **S901** : DECK [B] play switch in "**off**" position.
- **S902** : DECK [B] FF/REW switch in "**off**" position.
- **S903** : DECK [B] motor switch in "**off**" position.
- **S904** : DECK [B] 70/120μs detection switch in "**off**" position.
- **S905** : DECK [A] play switch in "**off**" position.
- **S906** : DECK [A] motor switch in "**off**" position.
- **S907** : DECK [A] rec switch in "**off**" position.
- **S908** : DECK [A] 70/120μs detection switch in "**off**" position.
- **S909** : DECK [A] Metal/CrO_2 detection switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( ) ..... Voltage values at record mode.
  X2 ..... Voltage values at Editing speed X2 mode.
  Me ..... Voltage values at Metal tape mode.
  NR ..... Voltage values at Dolby NR mode.
  Edit ..... Voltage values at Editing mode.
  DECK B ..... Voltage values at DECK B Playback.
  For measurement us EVM.
- (▭) indicates B (bias).
- (▒) indicates the flow of the playback signal.
- (⇨) indicates the flow of the record signal.

- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

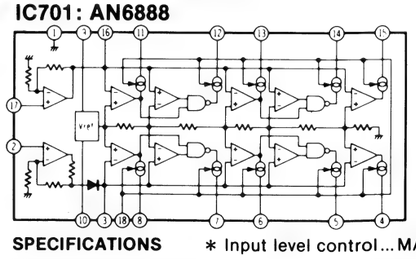
∗ Caution !

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- ∗ Cover the parts boxes made of plastics with aluminum foil.
- ∗ Ground the soldering iron.
- ∗ Put a conductive mat on the work table.
- ∗ Do not touch the legs of IC or LSI with the fingers directly.

■ EQUIVALENT CIRCUIT

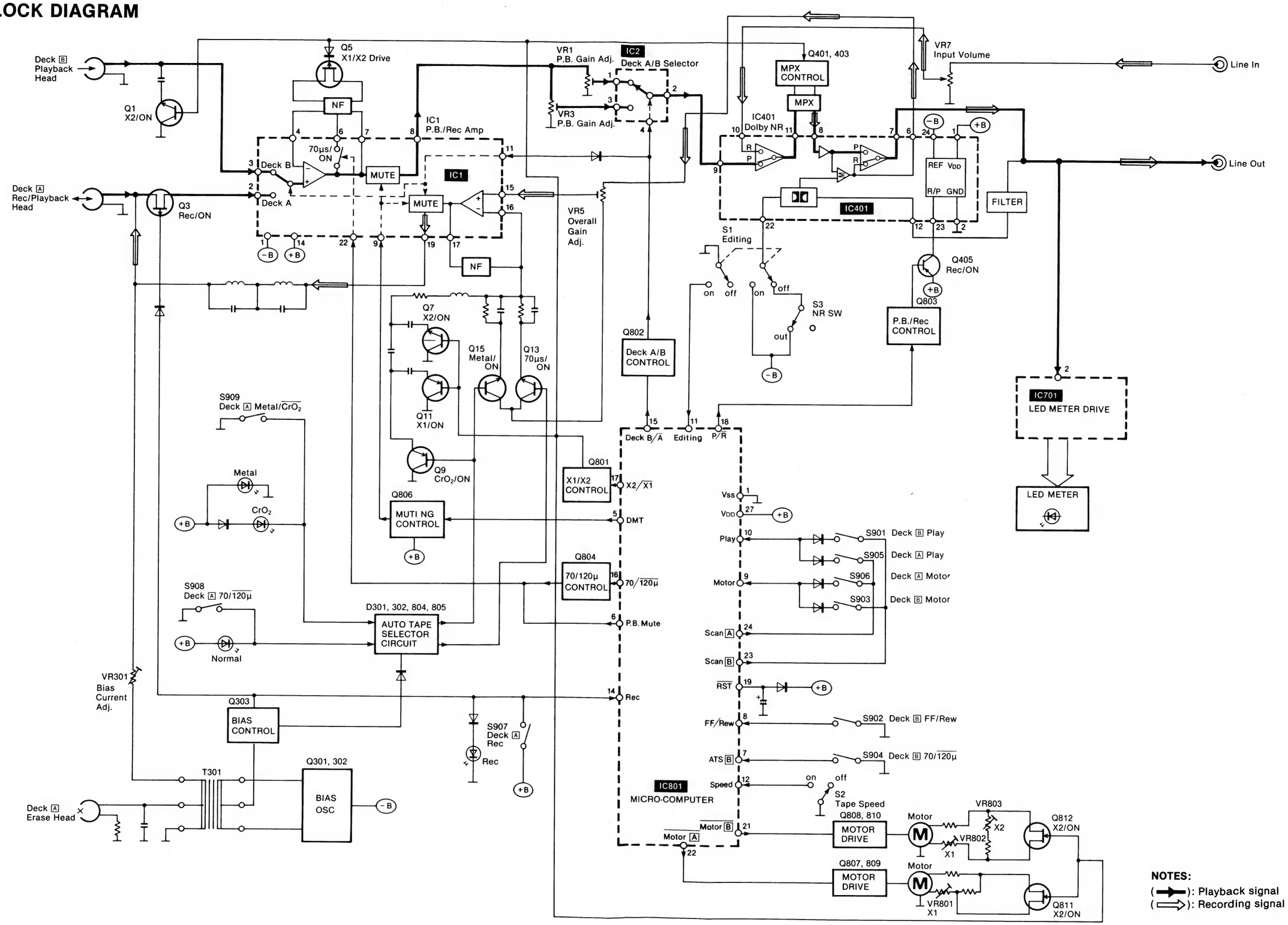
IC701 : AN6888



SPECIFICATIONS ∗ Input level control ... MAX

Playback S/N ratio ∗ Test tape ... QZZCFM	Greater than 45dB
Overall distortion ∗ Test tape ... QZZCRA for Normal ... QZZCRX for CrO_2 ... QZZCRZ for Metal	Normal ..... Less than 3.5% CrO_2, Metal ... Less than 4%
Overall S/N ratio ∗ Test tape ... QZZCRA	Greater than 43dB (without NAB filter)

■ BLOCK DIAGRAM



■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Code	Description
CASSETTE DECK			
101	SJH103	001 270 1833 9	MAGNETIC HEAD TAPE B
101	RJH4C35GZAM	001 270 1680 8	MAGNETIC HEAD TAPE A
102	SMQ4596	016 726 0239 1	SPRING
103	RJH7E5YAM	001 270 1681 7	MAGNETIC HEAD TAPE A
103	SJH97	001 270 1682 6	MAGNETIC HEAD TAPE B
104	SMQ4768	016 630 0142 0	HEAD BASE
105	RFD135ZA	015 845 0361 4	PANEL
106	SMQT1581	005 500 5750 4	SCREW
107	SMQ4770	016 726 0242 6	HEAD PANEL SPRING
108	SMQ4772	016 740 0061 7	TAKE UP ROLLER ASSY
109	RFS249ZA	015 726 2227 5	SPRING
110	SMQ4774	016 652 0304 8	FUNCTION LEVER STOPPER
111	SMQ4776	016 717 0146 6	PINCH ROLLER ASSY
112	SMQT1458	016 630 0224 9	CHASSIS
113	SMQ4778	016 718 0306 3	REC SAFETY LEVER TAPE A
114	SMQ4780	016 727 0051 6	PACK HOLDER SPRING
115	SMQ4782	016 757 0032 1	FLYWHEEL METAL
116	RFY183ZA	015 718 3291 9	LEVER
117	SMQ4786	016 650 0555 1	COLLAR
118	SMQT1629	016 726 0778 9	SPRING
119	SMQ4788	016 650 0556 0	COLLAR
120	SMQ4790	016 718 0308 1	CONTROL LEVER
121	RFS379Z	016 726 0430 4	SPRING
122	SMQ4792	016 728 0088 8	BRAKE SPRING
123	SMQ4794	016 717 0147 5	BRAKE ARM ASSEMBLY
124	SMQT1630	016 726 0777 0	SPRING
125	SMQ4800	016 765 0025 4	SUPPLY REEL ASSEMBLY
126	SMQT1636	016 726 0779 8	SPRING
127	SMQ4804	016 765 0026 3	TAKE UP REEL ASSEMBLY
128	SMQ4806	016 652 0305 7	SENSING PIECE
129	SMQ4808	016 726 0244 4	SENSING PIECE SPRING
130	SMQ4810	016 745 0069 4	FF GEAR
132	RFU16ZA	015 630 1587 9	PLATE
133	SMQ4814	016 718 0309 0	T. ROLLER KICK LEVER
135	SMQ4818	016 718 0310 7	SENSING LEVER
136	SMQ4820	016 726 0245 3	SENSING LEVER SPRING
137	SMQ4822	016 740 0062 6	PULLEY
138	SMQ4824	016 752 0078 2	FULL AUTO BELT
139	SMQ4826	016 745 0070 1	CAM GEAR
140	SMQT1631	016 726 0781 4	SPRING
141	SMQT1583	016 717 0242 7	ARM
142	SMQT1635	016 752 0123 4	FLAT BELT
143	SMQ4832	016 718 0311 6	RF SLIDING LEVER ASSY
144	SMQ4834	016 718 0312 5	AUTO LEVER
145	SMQ4938	016 643 0447 5	AUTO LEVER COLLAR
146	SMQ4836	016 630 0143 9	BUTTON BASE(L)
148	SMQ4840	016 630 0144 8	BUTTON BASE(R)
149	SMQT1585	016 643 0920 1	SPACER TAPE A
150	SMQT1586	016 718 3306 1	LEVER TAPE A
151	SMQ4846	016 718 0315 2	PLAY BUTTON LEVER
152	SMQ4848	016 718 0316 1	RWD BUTTON LEVER
153	SMQ4850	016 718 0317 0	FF BUTTON LEVER
154	SMQ4852	016 718 0318 9	STOP BUTTON LEVER
155	SMQ4854	016 718 0319 8	PAUSE BUTTON LEVER ASSY
156	SMQ4856	016 726 0246 2	BUTTON LEVER SPRING
157	SMQT1716	016 726 0988 1	BUTTON LEVER SPRING TAPE B
157	SMQ4858	016 726 0247 1	BUTTON LEVER SPRING TAPE A
158	SMQ4860	016 726 0248 0	PAUSE LEVER SPRING
159	SMQ2444	016 718 0205 7	LEVER
160	SMQ4862	016 652 0306 6	P STOPPER
161	SMQT1588	016 726 0770 7	SPRING
162	SMQT1587	016 718 3305 2	LEVER
163	RFS253ZA	015 726 2232 8	SPRING
164	SMQT1589	016 718 3304 3	LEVER
166	SMQ4872	016 718 0323 2	EJECT KICK LEVER
168	SMQ4880	016 718 0325 0	FUNCTION LEVER W/SP
169	SMQT1590	016 630 1711 5	SUB CHASSIS
170	SMQ4888	016 728 0089 7	M GEAR SPRING
171	SMQ4890	016 728 0090 4	TRIGGER ARM SPRING
172	SMQ4892	016 717 0150 0	TRIGGER ARM ASSEMBLY
173	SMQ4894	016 745 0071 0	MAIN GEAR
174	SMQ4896	016 745 0130 6	PAUSE GEAR
175	SMQT1678	016 754 0070 0	MAIN BELT
176	SMQ4900	016 756 0046 0	FLYWHEEL ASSY
177	SMQ4902	016 717 0151 9	TRIGGER ARM
178	SMQ4904	016 728 0091 3	TRIGGER ARM SPRING
179	SMQ4906	016 717 0152 8	PAUSE ARM ASSY
180	SMQ4909	016 726 0780 5	SPRING
181	SMQ4910	016 643 0445 7	LIFT ARM COLLAR
182	SMQT1593	016 717 0243 6	ARM
183	RFS248ZA	015 726 2226 6	SPRING
184	SMQT1679	002 310 2537 1	MOTOR ASS'Y
185	SMQT1633	016 650 5188 4	FM- HOLD PLATE TAPE A
185	SMQT1717	016 630 1843 4	FM HOLD PLATE TAPE B
186	SMQ4916	016 653 0621 3	MOTOR RUBBER
187	SMQT1595	016 630 1710 6	FL PLATE
188	SMQ4922	016 726 0251 5	SPRING
190	SMQ4940	016 718 0326 9	KICK LEVER
191	SMQ4858	016 726 0247 1	BUTTON LEVER SPRING
192	SMQT1453	016 726 0423 3	SPRING
193	SMQT1598	016 650 5194 6	BRACKET
194	SMQT1680	016 643 1042 8	FELT
195	RFS378Z	016 726 0610 2	SPRING
205	RFS378Z	016 726 0610 2	SPRING
SCREWS,WASHERS & NUTS			
131	SMQ4168	016 650 0538 2	COLLAR
134	SMQT1582	005 500 5751 3	SCREW
147	SMQ4838	005 500 4519 3	COLLAR SCREW
165	SMQ4870	016 650 0562 2	COLLAR SCREW
167	SMQ4878	016 643 0444 8	COLLAR SCREW
189	SMQ4942	016 643 0448 4	COLLAR SCREW
196	SMQ4936	005 513 2293 9	NYLON WASHER
197	XSN2+8	005 500 1301 1	SMALL SCREW
198	SMQT1634	005 500 5867 2	SCREW
199	XWG2	005 513 1459 9	WASHER
200	SMQ4944	005 500 2957 3	SCREW
201	XYN2+C4	005 503 0548 9	SCREW
202	XYN2+C6	005 500 1297 0	SCREW
203	XSN26+5	005 500 1361 9	SCREW
204	XYN2+C5	005 500 1291 6	SCREW
206	RFE133Z	005 512 0346 6	RETAINING RING
207	SMQ4930	005 513 2291 1	POLYSLIDE WASHER
208	XUC12FT	005 512 0116 8	WASHER
209	XUC2FT	005 512 0126 6	E-RING
210	XYN26+C6	005 503 0554 1	SMALL SCREW
211	XUC15FT	005 512 0121 1	WASHER
212	SMQ4932	005 513 2292 0	NYLON WASHER
213	SMQ4934	005 500 2956 4	SCREW
214	XTN26+3	005 501 3346 5	TAPPING SCREW
215	SMQT1454	005 513 4008 0	WASHER
216	SMQ4918	016 643 0446 6	SCREW
217	RFN73Z	016 643 0778 9	SPACER

■ MECHANICAL PARTS LOCATION

NOTES:

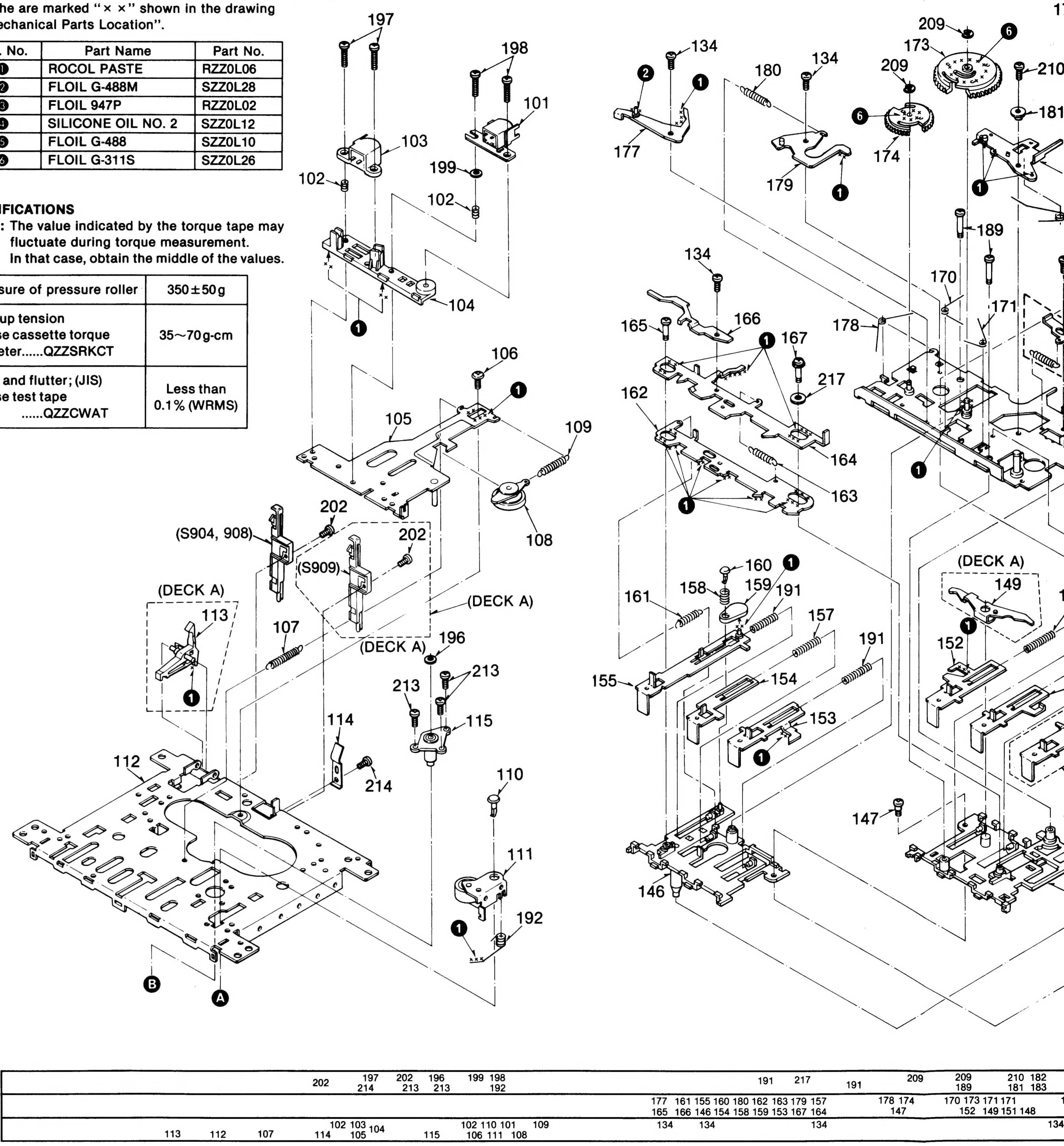
- When changing mechanism parts. apply the specified grease to the are marked "× ×" shown in the drawing "Mechanical Parts Location".

Ref. No.	Part Name	Part No.
❶	ROCOL PASTE	RZZ0L06
❷	FLOIL G-488M	SZZ0L28
❸	FLOIL 947P	RZZ0L02
❹	SILICONE OIL NO. 2	SZZ0L12
❺	FLOIL G-488	SZZ0L10
❻	FLOIL G-311S	SZZ0L26

SPECIFICATIONS

NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values.

Pressure of pressure roller	350±50g
Takeup tension ✻ Use cassette torque meter......QZZSRKCT	35~70g-cm
Wow and flutter; (JIS) ✻ Use test tape ......QZZCWAT	Less than 0.1% (WRMS)



Description
AUSE LEVER SPRING
EVER
STOPPER
PRING
EVER
PRING
EVER
JECT KICK LEVER
UNCTION LEVER W/SP
UB CHASSIS
GEAR SPRING
TRIGGER ARM SPRING
RIGGER ARM ASSEMBLY
AIN GEAR
AUSE GEAR
AIN BELT
LYWHEEL ASSY
RIGGER ARM
TRIGGER ARM SPRING
AUSE ARM ASSY
PRING
FT ARM COLLAR
RM
PRING
OTOR ASS'Y
H- HOLD PLATE
APE A
HOLD PLATE
APE B
OTOR RUBBER
PLATE
PRING
CK LEVER
TTON LEVER SPRING
RING
ACKET
LT
RING
RING
LLAR
REW
LLAR SCREW
LLAR SCREW
LLAR SCREW
LLAR SCREW
LON WASHER
ALL SCREW
REW
SHER
REW
REW
REW
REW
REW
TAINING RING
LYSLIDE WASHER
SHER
RING
ALL SCREW
SHER
LON WASHER
REW
PPING SCREW
SHER
REW
ACER

■ MECHANICAL PARTS LOCATION

NOTES:

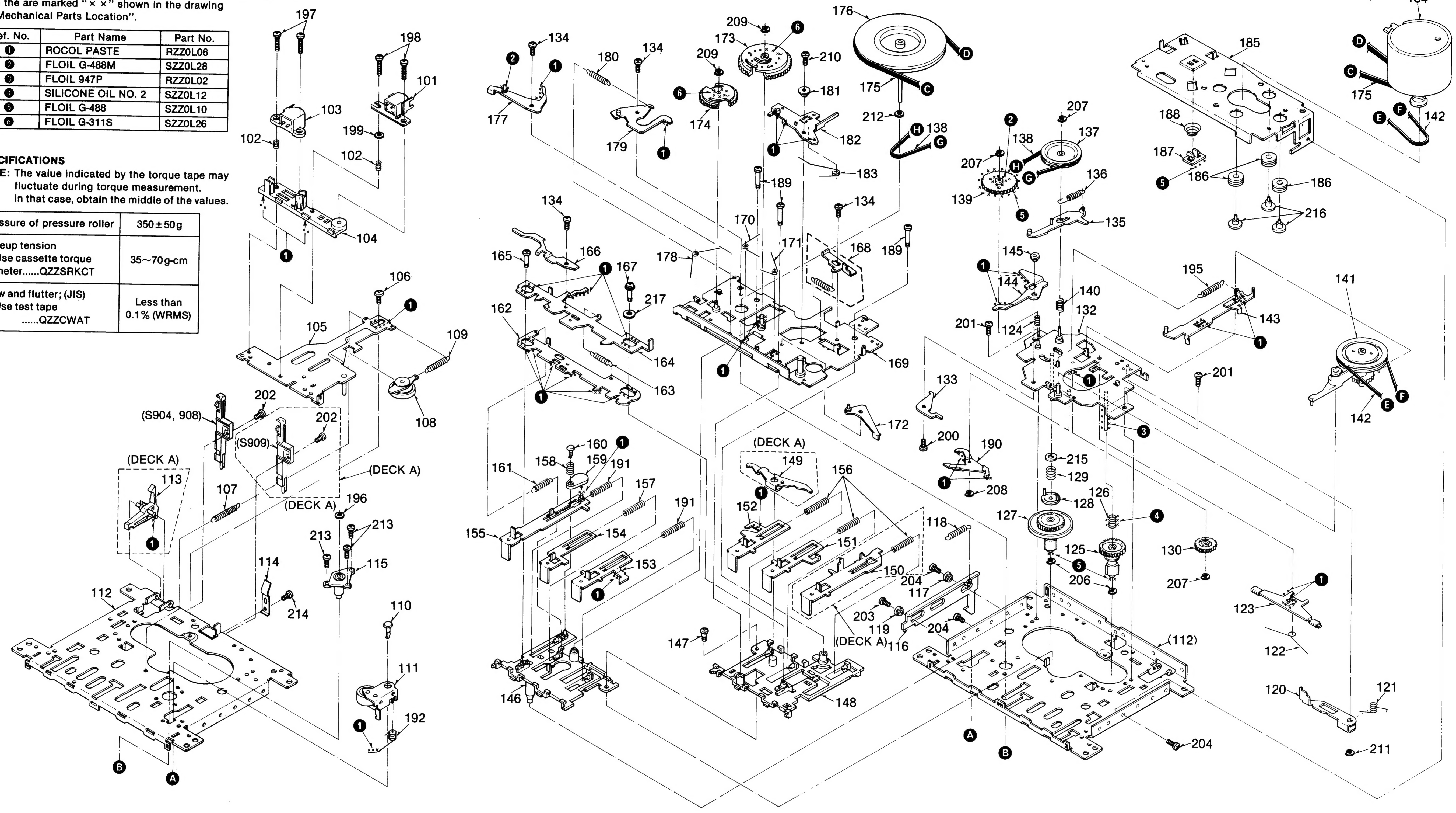
- When changing mechanism parts. apply the specified grease to the are marked "× ×" shown in the drawing "Mechanical Parts Location".

Ref. No.	Part Name	Part No.
❶	ROCOL PASTE	RZZ0L06
❷	FLOIL G-488M	SZZ0L28
❸	FLOIL 947P	RZZ0L02
❹	SILICONE OIL NO. 2	SZZ0L12
❺	FLOIL G-488	SZZ0L10
❻	FLOIL G-311S	SZZ0L26

SPECIFICATIONS

NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values.

Pressure of pressure roller	350±50g
Takeup tension ∗ Use cassette torque meter......QZZSRKCT	35~70g-cm
Wow and flutter; (JIS) ∗ Use test tape ......QZZCWAT	Less than 0.1% (WRMS)



202 · 197 214 · 202 213 · 196 213 · 199 198 192 · 191 · 217 · 191 · 209 · 209 189 · 210 181 · 182 183 · 212 203 · 189 · 200 204 · 204 · 190 208 · 207 201 · 207 215 · 206 · 204 · 187 207 · 188 201 · 185 195 · 186 · 186 216 · 211 · 184
177 165 · 161 166 · 155 146 · 160 154 · 180 158 · 162 159 · 163 153 · 179 167 · 157 164 · 178 147 · 174 · 170 152 · 173 · 171 149 · 171 151 · 148 · 168 156 · 172 150 · 176 175 · 169 · 145 144 · 143 · 141 175 142 · 142
113 · 112 · 107 · 114 · 102 103 105 · 104 · 115 · 102 106 · 110 111 · 101 108 · 109 · 134 · 134 · 134 · 134 · 138 119 · 133 116 · 117 118 · 139 · 138 · 124 127 · 137 128 · 135 129 · 136 132 · 140 · 126 125 · 112 · 130 · 123 122 · 120 · 121

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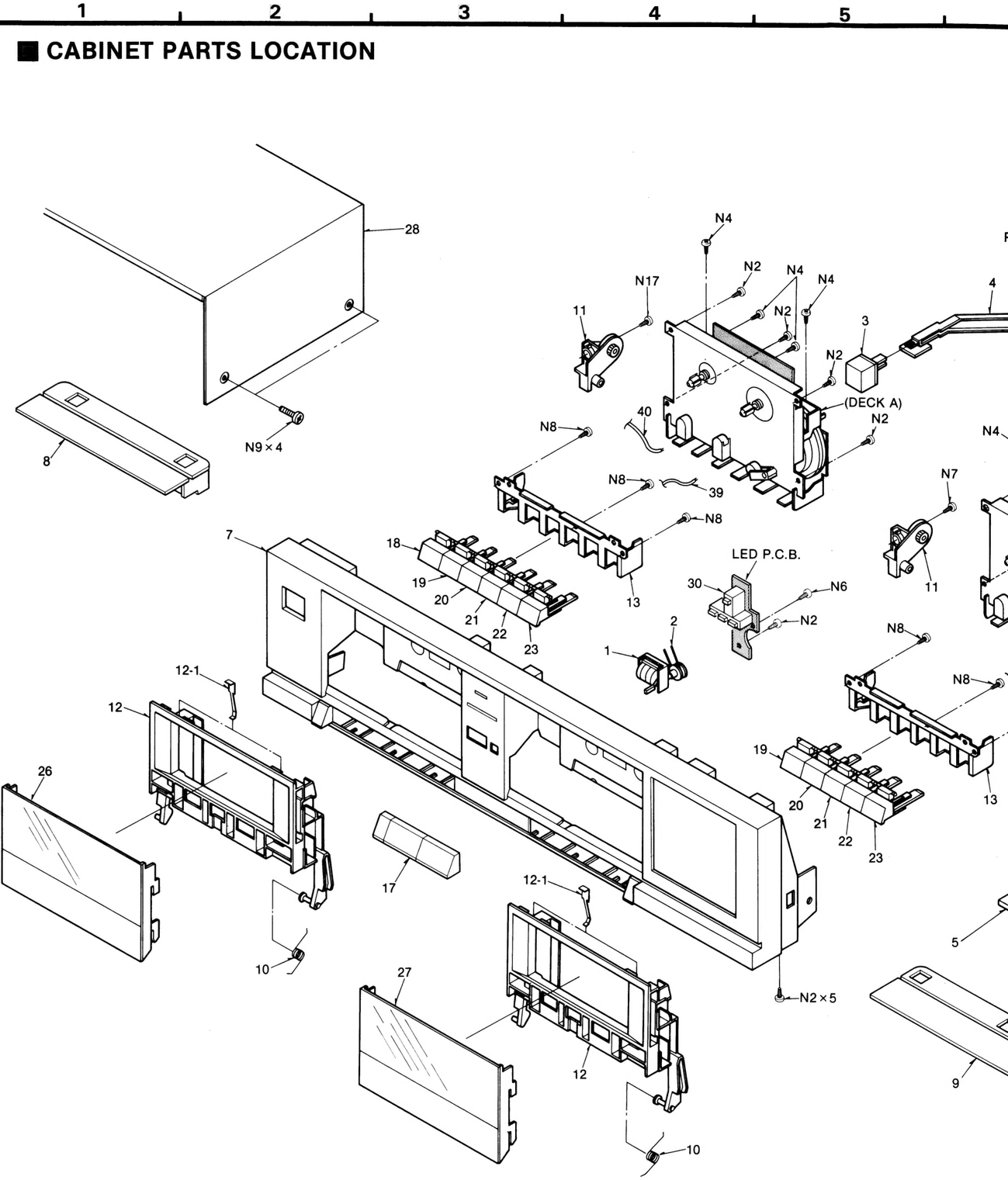
■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Code	Description
CABINET AND CHASSIS			
1	SJN20	016 892 0121 5	TAPE COUNTER
2	SMQ20018	016 754 0054 0	ANGULAR BELT
3	SBC666	016 702 5545 6	BUTTON, POWER
4	SUB255	016 712 0316 1	ROD
5	SBC944-1	016 702 7117 4	BUTTON
6	SKMS363-KM	016 840 8012 7	REAR PANEL
6-1	SKL293	016 828 0269 8	RUBBER
7	SGYS363-KM	016 840 8015 4	FRONT PANEL (K)
8	SGX7894	016 846 3777 9	SPACER
9	SGX7895	016 846 3776 0	SPACER
10	SUS797	016 726 0677 3	SPRING
11	SGXST25-KP	016 846 3480 3	ORNAMENT
12	SGXST17-KM	016 846 3795 7	CASSETTE HOLDER
12-1	QBP2006A	015 727 0706 8	SPRING
13	SMN2001-1	016 632 1784 8	ANGLE
14	SGX7899	016 846 3774 2	ORNAMENT
15	SBD144-1	016 700 2000 6	KNOB
16	SGX7898-2	016 846 3924 6	ORNAMENT
17	SGX7897-1	016 846 3853 4	ORNAMENT
18	SBC801-1	016 702 6440 0	BUTTON
19	SBC802-1	016 702 6441 9	BUTTON
20	SBC803-1	016 702 6442 8	BUTTON
21	SBC804-1	016 702 6443 7	BUTTON
22	SBC805-1	016 702 6444 6	BUTTON
23	SBC806-1	016 702 6445 5	BUTTON
26	SGE1896	016 820 0623 0	CASSETTE LID
27	SGE1896-1	016 820 0624 9	CASSETTE LID
28	SKC2090K96	016 800 3153 9	CABINET BODY
29	LN121307P	001 032 8495 7	DIODE, GAASP
30	LN041395P	001 033 0045 6	DIODE, GAASP
31	SJF3057NK	003 410 8123 0	TERMINAL BOARD
32 ⚠	SJS9236	003 403 4660 7	AC SOCKET
34	SJT30540LX-V	003 410 5996 1	CONNECTOR
34	SJT30840LX-V	003 410 5998 9	LUG TERMINAL
34	SJT31040LX-V	003 410 6112 1	LUG TERMINAL
35	QJP1920TN-1	003 403 7219 8	CONNECTOR
35	QJP1921TN-1	003 403 7220 5	CONNECTOR
36	SMC1227	016 601 0543 0	SHIELD COVER
37	SMN2043	016 632 1880 9	ANGLE
38	SWKST11M1	016 934 0162 5	P.HEAD WIRE
39	SWKST11M2	016 934 0161 6	R/P HEAD WIRE
40	SWKST11M3	016 934 0160 7	E.HEAD WIRE
SCREWS.WASHERS & NUTS			
N1	XTBS3+8JFZ1	005 501 2523 0	SCREW
N2	XTB3+10J	005 501 2076 2	SCREW
N3	XTW3+12Q	005 501 1350 7	TAPPING SCREW
N4	XTB3+6F	005 501 2687 1	SCREW
N5	XTB3+12JFZ	005 501 2078 0	TAPPING SCREW
N6	XTV26+6J	005 501 1301 6	SCREW
N7	XTB3+12J	005 501 1534 1	SCREW
N8	XTV26+8J	005 501 1140 5	SCREW
N9	SNE2125-1	005 500 5752 2	SCREW
N10	XTB3+8JFZ	005 501 0138 3	SCREW

Ref. No.	Part No.	Part Code	Description
PACKINGS			
P1	SPG5969	016 971 5137 7	CARTON BOX
P2	SPS4966	016 977 3304 8	PAD
P3	SPS4967	016 977 3303 9	PAD
P4	SPS4905	016 977 3274 7	PAD
P5	SPP723	016 978 0207 5	PROTECTION COVER
ACCESSORIES			
A1 ⚠	SJA170T	003 490 5170 7	POWER CORD
A2	SJP2271		CORD

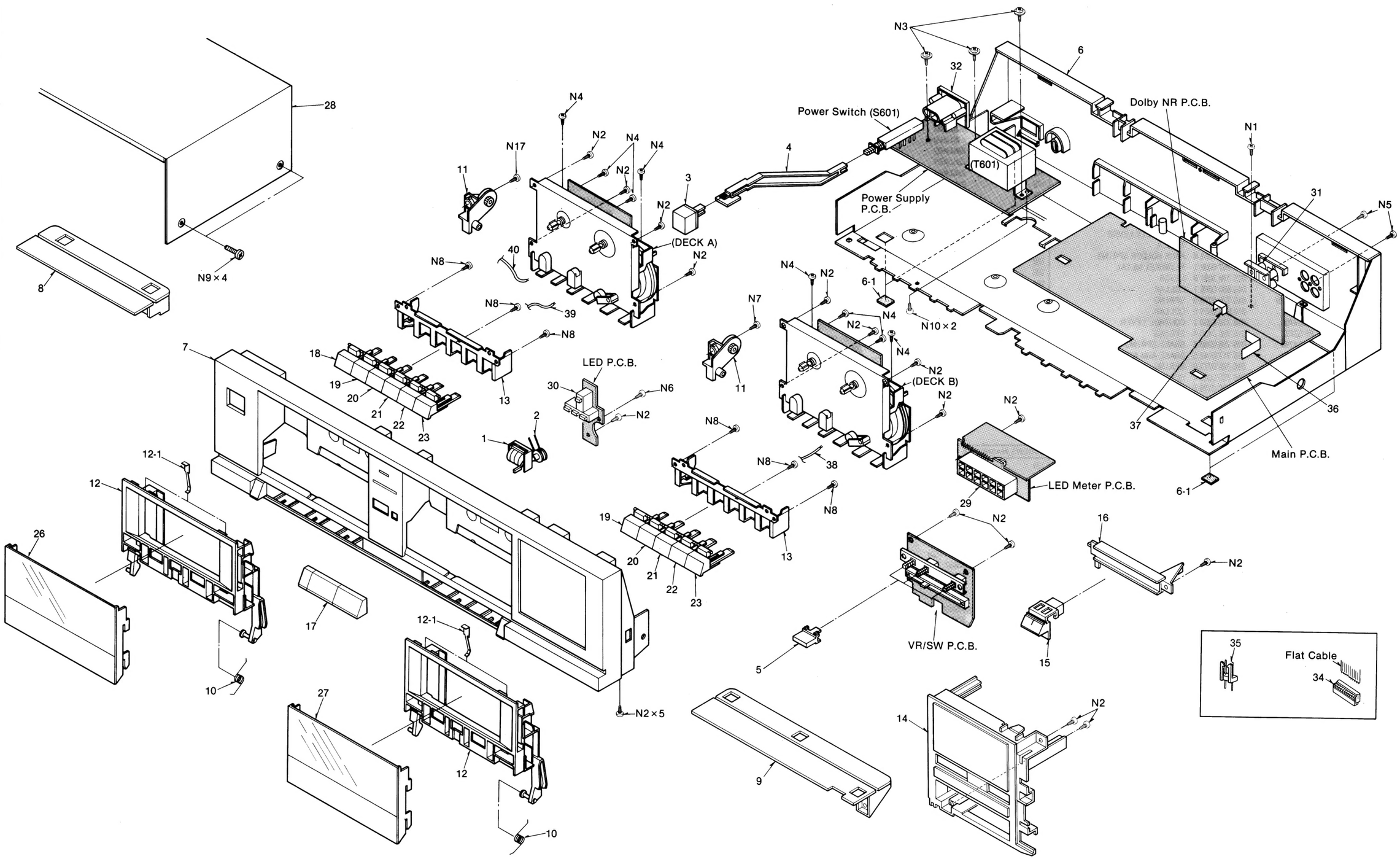
■ CABINET PARTS LOCATION



Description
ASSETTE LID
ABINET BODY
IODE, GAASP
IODE, GAASP
ERMINAL BOARD
C SOCKET
ONNECTOR
JG TERMINAL
JG TERMINAL
ONNECTOR
ONNECTOR
HIELD COVER
NGLE
HEAD WIRE
P HEAD WIRE
HEAD WIRE
CREW
CREW
APPING SCREW
CREW
APPING SCREW
CREW
CREW
CREW
CREW

Description
ROTECTION COVER
OWER CORD
ORD

■ CABINET PARTS LOCATION



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